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\* \* \* \* \* \* \* \* \* Welcome to STN International \* \* \* \* \* \* \* \* \*

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NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 FEB 27 New STN AnaVist pricing effective March 1, 2006  
NEWS 4 MAY 10 CA/CAplus enhanced with 1900-1906 U.S. patent records  
NEWS 5 MAY 11 KOREAPAT updates resume  
NEWS 6 MAY 19 Derwent World Patents Index to be reloaded and enhanced  
NEWS 7 MAY 30 IPC 8 Rolled-up Core codes added to CA/CAplus and  
USPATFULL/USPAT2  
NEWS 8 MAY 30 The F-Term thesaurus is now available in CA/CAplus  
NEWS 9 JUN 02 The first reclassification of IPC codes now complete in  
INPADOC  
NEWS 10 JUN 26 TULSA/TULSA2 reloaded and enhanced with new search and  
and display fields  
NEWS 11 JUN 28 Price changes in full-text patent databases EPFULL and PCTFULL  
NEWS 12 JUL 11 CHEMSAFE reloaded and enhanced  
NEWS 13 JUL 14 FSTA enhanced with Japanese patents  
NEWS 14 JUL 19 Coverage of Research Disclosure reinstated in DWPI  
NEWS 15 AUG 09 INSPEC enhanced with 1898-1968 archive  
NEWS 16 AUG 28 ADISCTI Reloaded and Enhanced  
NEWS 17 AUG 30 CA(SM)/CAplus(SM) Austrian patent law changes  
NEWS 18 SEP 11 CA/CAplus enhanced with more pre-1907 records  
  
NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.  
  
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=> FILE CAPLUS  
COST IN U.S. DOLLARS · SINCE FILE  
· ENTRY TOTAL  
SESSION  
FULL ESTIMATED COST 0.21 0.21

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FILE COVERS 1907 - 20 Sep 2006 VOL 145 ISS 13  
FILE LAST UPDATED: 19 Sep 2006 (20060919/ED)

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=> E WO2004090640/PN

E1	1	WO2004090638/PN
E2	1	WO2004090639/PN
E3	1	--> WO2004090640/PN
E4	1	WO2004090641/PN
E5	1	WO2004090642/PN
E6	1	WO2004090643/PN
E7	1	WO2004090644/PN
E8	1	WO2004090646/PN
E9	1	WO2004090649/PN
E10	1	WO2004090708/PN
E11	1	WO2004090795/PN
E12	3	WO2004090829/PN

=> S E3;D ALL  
L1 1 WO2004090640/PN  
(WO2004090640/PN)

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2004:872885 CAPLUS

DN 141:372751  
 ED Entered STN: 21 Oct 2004  
 TI Composition for formation of underlayer film for lithography containing  
 epoxy compound and carboxylic acid compound  
 IN Kishioka, Takahiro  
 PA Nissan Chemical Industries, Ltd., Japan  
 SO PCT Int. Appl., 43 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM G03F007-11  
 ICS C08G059-40; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004090640	A1	20041021	WO 2004-JP4764	20040401 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1617289	A1	20060118	EP 2004-725145	20040401
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	CN 1768306	A	20060503	CN 2004-80009217	20040401
PRAI	JP 2003-99228	A	20030402		
	WO 2004-JP4764	W	20040401		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	WO 2004090640	ICM	G03F007-11
		ICS	C08G059-40; H01L021-027
		IPCI	G03F0007-11 [ICM,7]; C08G0059-40 [ICS,7]; C08G0059-00 [ICS,7,C*]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	EP 1617289	IPCR	C08G0059-00 [I,C*]; C08G0059-40 [I,A]
		ECLA	C08G059/40; G03F007/09A; G03F007/11
		IPCI	G03F0007-11 [ICM,7]; C08G0059-40 [ICS,7]; C08G0059-00 [ICS,7,C*]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	CN 1768306	ECLA	C08G059/40; G03F007/09A; G03F007/11
		IPCI	G03F0007-11 [I,A]; C08G0059-40 [I,A]; C08G0059-00 [I,C*]; H01L0021-027 [I,A]; H01L0021-02 [I,C*]
		ECLA	C08G059/40; G03F007/09A; G03F007/11

AB A composition for formation of underlayer film for lithog. that is used in the  
 lithog. process for producing semiconductor devices; and an underlayer  
 film exhibiting a dry etching rate greater than in the use of  
 photoresists. In particular, a composition for formation of underlayer film,  
 capable of forming an underlayer film without the need to use a  
 crosslinking reaction catalyzed by a strong acid, which composition comprises a  
 component having epoxy group (polymeric compound or compound) and a component  
 having phenolic hydroxyl group, carboxyl group, protected carboxyl group  
 or acid anhydride structure (polymeric compound or compound).  
 ST antireflection compn underlayer film photolithog photoresist epoxy  
 carboxylic acid  
 IT Antireflective films

Photolithography  
 Photoresists  
 Semiconductor device fabrication  
     (composition for formation of underlayer film for lithog. containing epoxy compound and carboxylic acid compound)

IT 25067-05-4P, Glycidyl methacrylate homopolymer 86249-19-6P, Benzyl methacrylate-glycidyl methacrylate copolymer 155161-74-3P, Benzyl methacrylate-glycidyl methacrylate-methacrylic acid copolymer 156623-56-2P, Benzyl methacrylate-glycidyl methacrylate-2-hydroxyethyl methacrylate copolymer  
     RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (composition for formation of underlayer film for lithog. containing epoxy compound and carboxylic acid compound)

IT 2451-62-9, Tris(2,3-epoxypropyl)isocyanurate 2904-41-8, Tris(2-carboxyethyl)isocyanurate 9003-01-4, Poly(acrylic acid)  
     RL: TEM (Technical or engineered material use); USES (Uses)  
     (composition for formation of underlayer film for lithog. containing epoxy compound and carboxylic acid compound)

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Arch Specialty Chemicals Inc; EP 1169357 A 2002 CAPLUS
- (2) Arch Specialty Chemicals Inc; JP 2002539282 A 2002
- (3) Arch Specialty Chemicals Inc; US 6492092 B1 2002 CAPLUS
- (4) Clariant International Ltd; EP 1131678 A 2002 CAPLUS
- (5) Clariant International Ltd; CN 1330779 T 2002
- (6) Clariant International Ltd; JP 2002530696 A 2002
- (7) Clariant International Ltd; US 6114085 A1 2002 CAPLUS
- (8) Fuji Photo Film Co Ltd; JP 10-120939 A 1998 CAPLUS
- (9) Fuji Photo Film Co Ltd; JP 10-333336 A 1998 CAPLUS
- (10) Hyundai Electronics Ind Co Ltd; CN 1300790 A 2001 CAPLUS
- (11) Hyundai Electronics Ind Co Ltd; JP 2001194799 A 2001 CAPLUS
- (12) Hyundai Electronics Ind Co Ltd; US 20029595 A1 2001
- (13) Hyundai Electronics Ind Co Ltd; GB 2357512 A 2001 CAPLUS
- (14) Hyundai Electronics Ind Co Ltd; FR 2802934 A 2001 CAPLUS
- (15) Hyundai Electronics Industries Co Ltd; DE 10028345 A 2001 CAPLUS
- (16) Hyundai Electronics Industries Co Ltd; CN 1278529 A 2001 CAPLUS
- (17) Hyundai Electronics Industries Co Ltd; JP 200149231 A 2001
- (18) Hyundai Electronics Industries Co Ltd; GB 2351288 A 2001 CAPLUS
- (19) Hyundai Electronics Industries Co Ltd; FR 2795411 A 2001 CAPLUS
- (20) Hyundai Electronics Industries Co Ltd; US 6388039 B1 2001 CAPLUS
- (21) Japan Synthetic Rubber Co Ltd; JP 06-118656 A 1994 CAPLUS
- (22) Kabushiki Kaisha Hainikkusu Semiconductor; DE 10133716 A1 2002 CAPLUS
- (23) Kabushiki Kaisha Hainikkusu Semiconductor; DE 10133717 A1 2002 CAPLUS
- (24) Kabushiki Kaisha Hainikkusu Semiconductor; CN 1331254 A 2002 CAPLUS
- (25) Kabushiki Kaisha Hainikkusu Semiconductor; CN 1331256 A 2002 CAPLUS
- (26) Kabushiki Kaisha Hainikkusu Semiconductor; JP 2002105137 A 2002 CAPLUS
- (27) Kabushiki Kaisha Hainikkusu Semiconductor; US 2002127789 A1 2002 CAPLUS
- (28) Kabushiki Kaisha Hainikkusu Semiconductor; KR 20022907 A 2002
- (29) Kabushiki Kaisha Hainikkusu Semiconductor; KR 20022909 A 2002
- (30) Kabushiki Kaisha Hainikkusu Semiconductor; US 200293069 A1 2002
- (31) Kabushiki Kaisha Hainikkusu Semiconductor; JP 200297231 A 2002
- (32) Kabushiki Kaisha Hainikkusu Semiconductor; GB 2364315 A 2002 CAPLUS
- (33) Kabushiki Kaisha Hainikkusu Semiconductor; GB 2364317 A 2002 CAPLUS
- (34) Tokyo Ohka Kogyo Co Ltd; JP 06-35201 A 1994 CAPLUS

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.40	6.61
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STRUCTURE FILE UPDATES: 19 SEP 2006 HIGHEST RN 907944-91-6  
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=> S 2904-41-8/RN

L2 1 2904-41-8/RN

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=> D L2 SQIDE 1-

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L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 2904-41-8 REGISTRY  
CN 1,3,5-Triazine-1,3,5(2H,4H,6H)-tripropanoic acid, 2,4,6-trioxo- (9CI) (CA  
INDEX NAME)

OTHER CA INDEX NAMES:

CN s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo- (6CI, 7CI,  
8CI)

OTHER NAMES:

CN 1,3,5-Tris(2-carboxyethyl) isocyanurate  
CN 1,3,5-Tris(2-carboxyethyl)isocyanuric acid  
CN 1,3,5-Tris(carboxyethyl) isocyanurate  
CN Hexahydro-2,4,6-trioxo-s-triazine-1,3,5-tripropionic acid  
CN NSC 11694

CN Tris(2-carboxyethyl) isocyanurate

CN Tris(carboxyethyl) isocyanurate

FS 3D CONCORD

MF C12 H15 N3 O9

CI COM

LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST,

CSCHEM, IFICDB, IFIPAT, IFIUDB, USPAT2, USPATFULL  
(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*, TSCA\*\*

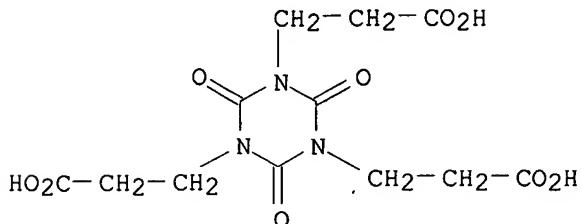
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA CAplus document type: Journal; Patent; Report

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: PREP (Preparation); PRP (Properties); USES (Uses)

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

72 REFERENCES IN FILE CA (1907 TO DATE)

9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

72 REFERENCES IN FILE CAPLUS (1907 TO DATE)

8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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=> FILE CAPLUS

COST IN U.S. DOLLARS

SINCE FILE ENTRY	TOTAL SESSION
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FULL ESTIMATED COST

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8.95

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE ENTRY	TOTAL SESSION
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FILE LAST UPDATED: 19 Sep 2006 (20060919/ED)

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=> D HIS

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FILE 'CAPLUS' ENTERED AT 19:02:15 ON 20 SEP 2006  
E WO2004090640/PN

L1 1 S E3

FILE 'REGISTRY' ENTERED AT 19:03:45 ON 20 SEP 2006  
L2 1 S 2904-41-8/RN  
SET NOTICE 1 DISPLAY  
SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 19:03:59 ON 20 SEP 2006

=> S L2  
L3 72 L2

=> S L3 AND GLYCIDYL  
43935 GLYCIDYL  
L4 7 L3 AND GLYCIDYL

=> D ALL 1-7

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2006:734505 CAPLUS  
DN 145:198792  
ED Entered STN: 27 Jul 2006  
TI Composition for forming of underlayer film for lithographic photoresist  
layer that contains compound having protected carboxyl  
IN Takei, Satoshi; Shinjo, Tetsuya; Hashimoto, Keisuke; Sakaida, Yasushi  
PA Nissan Chemical Industries, Ltd., Japan  
SO PCT Int. Appl., 58 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reproductive Processes)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006077748	A1	20060727	WO 2006-JP300080	20060106
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRAI JP 2005-14652 A 20050121

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

-----  
WO 2006077748 IPCI G03F0007-11 [I,A]; C08F0020-28 [I,A]; C08F0020-32  
[I,A]; C08F0020-00 [I,C\*]; H01L0021-027 [I,A];  
H01L0021-02 [I,C\*]

- AB The invention relates to provide an underlayer film that is used in the lithog. process for semiconductor device production, and that exhibits a dry etching rate greater than that of photoresist and is free from intermixing with the photoresist, and that can planarize the surface of semiconductor substrate with holes of high aspect ratio, and provide a composition for forming of underlayer film for lithog. with which the above underlayer film can be formed. There is provided a composition for forming of underlayer film for lithog., comprising a compound having two or more protected carboxyls, a compound having two or more epoxies and a solvent.
- ST compn underlayer film lithog photoresist layer
- IT Photolithography
- Photoresists  
(composition for forming of underlayer film for lithog. photoresist layer that contains compound having protected carboxyl)
- IT 89-05-4, 1,2,4,5-Benzenetetracarboxylic acid 111-34-2, Butyl vinyl ether 554-95-0, 1,3,5-Benzenetricarboxylic acid 2904-41-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(composition for forming of underlayer film for lithog. photoresist layer)
- IT 26141-88-8P, Glycidyl methacrylate/methyl methacrylate copolymer 56366-14-4P, Tributyl 1,2,3-benzenetricarboxylate 219832-91-4P,  
1-Butoxyethyl methacrylate/methyl methacrylate copolymer 902514-42-5P  
902514-44-7P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(composition for forming of underlayer film for lithog. photoresist layer)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Fuji Photo Film Co Ltd; EP 0851300 A1 1998 CAPLUS  
(2) Fuji Photo Film Co Ltd; JP 10-186671 A 1998 CAPLUS  
(3) Fuji Photo Film Co Ltd; US 6165684 A 1998 CAPLUS  
(4) Hyundai Electronics Industries Co Ltd; JP 200183696 A 2001  
(5) Hyundai Electronics Industries Co Ltd; US 20030018150 A1 2001 CAPLUS  
(6) Nissan Chemical Industries Ltd; EP 1617289 A1 2004 CAPLUS  
(7) Nissan Chemical Industries Ltd; WO 2004099228 A1 2004 CAPLUS  
(8) Toshiba Corp; JP 11-72925 A 1999 CAPLUS  
(9) Toshiba Corp; US 6054254 A 1999 CAPLUS

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:872885 CAPLUS

DN 141:372751

ED Entered STN: 21 Oct 2004

TI Composition for formation of underlayer film for lithography containing epoxy compound and carboxylic acid compound

IN Kishioka, Takahiro

PA Nissan Chemical Industries, Ltd., Japan

SO PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM G03F007-11

ICS C08G059-40; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004090640	A1	20041021	WO 2004-JP4764	20040401

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,

LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
 ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
 SK, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,  
 TD, TG  
 EP 1617289 A1 20060118 EP 2004-725145 20040401  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR  
 CN 1768306 A 20060503 CN 2004-80009217 20040401  
 PRAI JP 2003-99228 A 20030402  
 WO 2004-JP4764 W 20040401

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004090640	ICM	G03F007-11
	ICS	C08G059-40; H01L021-027
	IPCI	G03F0007-11 [ICM,7]; C08G0059-40 [ICS,7]; C08G0059-00 [ICS,7,C*]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	C08G0059-00 [I,C*]; C08G0059-40 [I,A]
EP 1617289	ECLA	C08G059/40; G03F007/09A; G03F007/11
	IPCI	G03F0007-11 [ICM,7]; C08G0059-40 [ICS,7]; C08G0059-00 [ICS,7,C*]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	ECLA	C08G059/40; G03F007/09A; G03F007/11
CN 1768306	IPCI	G03F0007-11 [I,A]; C08G0059-40 [I,A]; C08G0059-00 [I,C*]; H01L0021-027 [I,A]; H01L0021-02 [I,C*]
	ECLA	C08G059/40; G03F007/09A; G03F007/11
AB	A composition for formation of underlayer film for lithog. that is used in the lithog. process for producing semiconductor devices; and an underlayer film exhibiting a dry etching rate greater than in the use of photoresists: In particular, a composition for formation of underlayer film, capable of forming an underlayer film without the need to use a crosslinking reaction catalyzed by a strong acid, which composition comprises a component having epoxy group (polymeric compound or compound) and a component having phenolic hydroxyl group, carboxyl group, protected carboxyl group or acid anhydride structure (polymeric compound or compound).	
ST	antireflection compn underlayer film photolithog photoresist epoxy carboxylic acid	
IT	Antireflective films Photolithography Photoresists Semiconductor device fabrication (composition for formation of underlayer film for lithog. containing epoxy compound and carboxylic acid compound)	
IT	25067-05-4P, Glycidyl methacrylate homopolymer 86249-19-6P, Benzyl methacrylate-glycidyl methacrylate copolymer 155161-74-3P, Benzyl methacrylate-glycidyl methacrylate-methacrylic acid copolymer 156623-56-2P, Benzyl methacrylate-glycidyl methacrylate-2-hydroxyethyl methacrylate copolymer RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (composition for formation of underlayer film for lithog. containing epoxy compound and carboxylic acid compound)	
IT	2451-62-9, Tris(2,3-epoxypropyl)isocyanurate 2904-41-8, Tris(2-carboxyethyl)isocyanurate 9003-01-4, Poly(acrylic acid) RL: TEM (Technical or engineered material use); USES (Uses) (composition for formation of underlayer film for lithog. containing epoxy compound and carboxylic acid compound)	
RE.CNT	34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD RE (1) Arch Specialty Chemicals Inc; EP 1169357 A 2002 CAPLUS	

- (2) Arch Specialty Chemicals Inc; JP 2002539282 A 2002
- (3) Arch Specialty Chemicals Inc; US 6492092 B1 2002 CAPLUS
- (4) Clariant International Ltd; EP 1131678 A 2002 CAPLUS
- (5) Clariant International Ltd; CN 1330779 T 2002
- (6) Clariant International Ltd; JP 2002530696 A 2002
- (7) Clariant International Ltd; US 6114085 A1 2002 CAPLUS
- (8) Fuji Photo Film Co Ltd; JP 10-120939 A 1998 CAPLUS
- (9) Fuji Photo Film Co Ltd; JP 10-333336 A 1998 CAPLUS
- (10) Hyundai Electronics Ind Co Ltd; CN 1300790 A 2001 CAPLUS
- (11) Hyundai Electronics Ind Co Ltd; JP 2001194799 A 2001 CAPLUS
- (12) Hyundai Electronics Ind Co Ltd; US 20029595 A1 2001
- (13) Hyundai Electronics Ind Co Ltd; GB 2357512 A 2001 CAPLUS
- (14) Hyundai Electronics Ind Co Ltd; FR 2802934 A 2001 CAPLUS
- (15) Hyundai Electronics Industries Co Ltd; DE 10028345 A 2001 CAPLUS
- (16) Hyundai Electronics Industries Co Ltd; CN 1278529 A 2001 CAPLUS
- (17) Hyundai Electronics Industries Co Ltd; JP 200149231 A 2001
- (18) Hyundai Electronics Industries Co Ltd; GB 2351288 A 2001 CAPLUS
- (19) Hyundai Electronics Industries Co Ltd; FR 2795411 A 2001 CAPLUS
- (20) Hyundai Electronics Industries Co Ltd; US 6388039 B1 2001 CAPLUS
- (21) Japan Synthetic Rubber Co Ltd; JP 06-118656 A 1994 CAPLUS
- (22) Kabushiki Kaisha Hainikkusu Semiconductor; DE 10133716 A1 2002 CAPLUS
- (23) Kabushiki Kaisha Hainikkusu Semiconductor; DE 10133717 A1 2002 CAPLUS
- (24) Kabushiki Kaisha Hainikkusu Semiconductor; CN 1331254 A 2002 CAPLUS
- (25) Kabushiki Kaisha Hainikkusu Semiconductor; CN 1331256 A 2002 CAPLUS
- (26) Kabushiki Kaisha Hainikkusu Semiconductor; JP 2002105137 A 2002 CAPLUS
- (27) Kabushiki Kaisha Hainikkusu Semiconductor; US 2002127789 A1 2002 CAPLUS
- (28) Kabushiki Kaisha Hainikkusu Semiconductor; KR 20022907 A 2002
- (29) Kabushiki Kaisha Hainikkusu Semiconductor; KR 20022909 A 2002
- (30) Kabushiki Kaisha Hainikkusu Semiconductor; US 200293069 A1 2002
- (31) Kabushiki Kaisha Hainikkusu Semiconductor; JP 200297231 A 2002
- (32) Kabushiki Kaisha Hainikkusu Semiconductor; GB 2364315 A 2002 CAPLUS
- (33) Kabushiki Kaisha Hainikkusu Semiconductor; GB 2364317 A 2002 CAPLUS
- (34) Tokyo Ohka Kogyo Co Ltd; JP 06-35201 A 1994 CAPLUS

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:891715 CAPLUS  
 DN 134:149003  
 ED Entered STN: 21 Dec 2000  
 TI Development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester  
 AU Ishidoya, Masahiro; Nakane, Yoshinori; Shibatoh, Kishio; Ohe, Osamu; Endo, Takeshi  
 CS Coatings Research Laboratory, NOF Corporation, Totsuka, Yokohama, 244-0815, Japan  
 SO Nippon Kagaku Kaishi (2000), (12), 831-840  
 CODEN: NKAKB8; ISSN: 0369-4577  
 PB Nippon Kagakkai  
 DT Journal  
 LA Japanese  
 CC 42-3 (Coatings, Inks, and Related Products).  
 AB Novel thermal latent hardeners containing blocked carboxyl groups with alkyl vinyl ethers, i.e., hemiacetal esters, have been developed. They showed liquid form or lower m.p. and excellent solubility and compatibility. Although the blocked carboxyl groups were stable under usual condition, they could regenerate the corresponding free carboxyl groups by thermal dissociation of hemiacetal ester. A novel crosslinking system between blocked carboxyl group and epoxide was examined. The new one-package thermosetting coatings provided by the system have been applied to practical automotive and coil coatings line production. The formed coatings have high level of acid resistance, corrosion resistance and weatherability with reduction of VOCs.  
 ST coating thermal crosslinking hemiacetal ester system; equil reaction thermal crosslinking hemiacetal ester blocked carboxyl group; vinyl ether blocked carboxyl group thermal crosslinking; latentiated carboxyl group hemiacetal ester crosslinking epoxy compd  
 IT Crosslinking

Crosslinking agents  
 (development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

IT Epoxy resins, miscellaneous  
 RL: MSC (Miscellaneous); PEP (Physical, engineering or chemical process);  
 PROC (Process)  
 (development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

IT Esters, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (hemiacetal, latentiated groups; development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

IT Acetals  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (hemiacetals, esters, latentiated groups; development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

IT Ethers, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (vinyl; blocking agents; development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

IT 89-05-4, Pyromellitic acid 97-65-4, Itaconic acid, uses 110-16-7,  
 Maleic acid, uses 110-17-8, Fumaric acid, uses 121-91-5, Isophthalic acid, uses 124-04-9, Adipic acid, uses 528-44-9, Trimellitic acid 1703-58-8, 1,2,3,4-Butanetetracarboxylic acid 2904-41-8, 1,3,5-Tris(carboxyethyl) isocyanurate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (hardener for epoxy compound; development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

IT 60734-94-3, 2-Ethylhexyl methacrylate-glycidyl methacrylate copolymer  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (main resin; development of novel crosslinking system based on equilibrium reaction of thermal dissociation of hemiacetal ester)

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:600079 CAPLUS  
 DN 129:261405  
 ED Entered STN: 22 Sep 1998  
 TI Polyester compositions with good draw-down, impact, heat, and chemical resistances and high transparency and gloss  
 IN Tokumizu, Shin; Yoshida, Atsushi; Fujimoto, Masaji  
 PA Mitsubishi Rayon Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF.

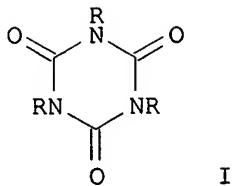
DT Patent  
 LA Japanese  
 IC ICM C08L067-03  
 ICS C08K005-3477  
 CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 10245478	A2	19980914	JP 1997-49131	19970304
PRAI JP 1997-49131		19970304		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 10245478	ICM C08L067-03 ICS C08K005-3477 IPCI C08L0067-03 [ICM,6]; C08K0005-3477 [ICS,6] IPCR C08K0005-00 [I,C*]; C08K0005-3477 [I,A]; C08L0067-00 [I,C*]; C08L0067-03 [I,A]	



- AB Title compns., useful for hollow containers, direct blow moldings, sheets, films, etc., comprise (A) 97-99.99% polyesters [intrinsic viscosity  $[\eta]$ ; at 25° in phenol/tetrachloroethane (1/1) mixture]  $\geq 0.5$  dL/g] prepared from (a1) acid components containing 80-100 mol% aromatic dicarboxylic acids and their ester-formable derivs. and (a2) glycol components and (B) 0.01-3% isocyanuric acid derivs. I [R = glycidyl, R'H, R'CO<sub>2</sub>H; R' = methylene, C<sub>2-4</sub> alkylene, (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> n = 1-8]. Thus, a composition containing a polyester (prepared from 100 mol parts terephthalic acid and 120 mol parts ethylene glycol;  $\eta = 0.80$  dL/g) and 0.02% (based on the polyester) 1,3,5-tris(2-hydroxyethyl)-isocyanurate was molded into a sheet, which showed good draw-down, impact, heat, and chemical resistances, transparency, and gloss.
- ST draw down impact resistance polyester blend; chem heat resistance transparency polyester blend; isocyanurate polyethylene terephthalate blend heat resistance
- IT Polyesters, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (aromatic; isocyanurate-containing polyester compns. with good draw-down, impact, heat, and chemical resistances, transparency, and gloss)
- IT Heat-resistant materials  
 Heat-résistant materials  
 (chemical resistant; isocyanurate-containing polyester compns. with good draw-down, impact, heat, and chemical resistances, transparency, and gloss)
- IT Chemically resistant materials  
 Chemically resistant materials  
 (heat-resistant; isocyanurate-containing polyester compns. with good draw-down, impact, heat, and chemical resistances, transparency, and gloss)
- IT Transparent materials  
 Transparent materials  
 (impact-resistant; isocyanurate-containing polyester compns. with good draw-down, impact, heat, and chemical resistances, transparency, and gloss)
- IT Polyesters, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (isocyanurate-containing polyester compns. with good draw-down, impact, heat, and chemical resistances, transparency, and gloss)
- IT Impact-resistant materials  
 Impact-resistant materials  
 (transparent; isocyanurate-containing polyester compns. with good draw-down, impact, heat, and chemical resistances, transparency, and gloss)
- IT 25038-59-9P, Ethylene glycol-terephthalic acid copolymer, preparation  
 79293-17-7P, Ethoxylated bisphenol A-ethylene glycol-terephthalic acid copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)  
 (isocyanurate-containing polyester compns. with good draw-down, impact,  
 heat, and chemical resistances, transparency, and gloss)

IT 839-90-7, 1,3,5-Tris(2-hydroxyethyl) isocyanurate 2451-62-9  
 2904-41-8, 1,3,5-Tris(2-carboxyethyl) isocyanurate 213608-03-8,  
 1,3,5-Tris(hydroxybutyl) isocyanurate

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (isocyanurate-containing polyester compns. with good draw-down, impact,  
 heat, and chemical resistances, transparency, and gloss)

IT 25038-59-9, Dianite MA 580, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (isocyanurate-containing polyester compns. with good draw-down, impact,  
 heat, and chemical resistances, transparency, and gloss)

L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:217368 CAPLUS  
 DN 128:295888  
 ED Entered STN: 17 Apr 1998  
 TI Matte powder-coating compositions with good impact and weather resistance  
 IN Pruessner, Paul J.; Lu, Szu Ping  
 PA Mitsui Toatsu Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09D163-00  
 ICS C09D005-00; C09D133-14; C09D167-00; C08F220-26; C08G059-58;  
 C08F220-14  
 CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10088063	A2	19980407	JP 1997-250805	19970916
US 5744522	A	19980428	US 1996-713517	19960913
EP 835914	A1	19980415	EP 1997-307100	19970912
EP 835914	B1	20040204		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, FI

PRAI US 1996-713517 A 19960913

#### CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 10088063	ICM	C09D163-00
	ICS	C09D005-00; C09D133-14; C09D167-00; C08F220-26; C08G059-58; C08F220-14
	IPCI	C09D0163-00 [ICM, 6]; C09D0005-00 [ICS, 6]; C09D0133-14 [ICS, 6]; C09D0167-00 [ICS, 6]; C08F0220-26 [ICS, 6]; C08G0059-58 [ICS, 6]; C08F0220-14 [ICS, 6]
US 5744522	IPCI	C08L0063-00 [ICM, 6]; C08F0020-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C08L0067-00 [N, C*]; C08L0067-02 [N, A]; C08L0075-00 [N, A]; C08L0075-00 [N, C*]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0167-02 [I, A]; C09D0167-02 [I, C*]
	NCL	523/442.000; 523/443.000; 523/505.000; 523/512.000; 525/127.000; 525/131.000; 525/165.000; 525/438.000; 525/454.000; 525/528.000; 525/533.000
EP 835914	ECLA	C08G059/42K; C09D133/06B6+B4; C09D167/02+B2F+C
	IPCI	C09D0133-06 [ICM, 6]; C09D0167-02 [ICS, 6]; C08G0059-42 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C08L0067-00 [N, C*]; C08L0067-02 [N, A]; C08L0075-00 [N, A]; C08L0075-00 [N, C*]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0167-02 [I, A]; C09D0167-02 [I, C*]

ECLA C08G059/42K; C09D133/06B6+B4; C09D167/02+B2F+C

OS MARPAT 128:295888  
AB The title compns. comprise (a) acrylic polymers bearing glycidyl groups, (b) aromatic polyesters, and (c) isocyanurate compds. bearing carboxy groups or their esters and salts as crosslinking agents. Thus, a coating composition was formulated from a Bu methacrylate-glycidyl methacrylate-Me methacrylate-styrene copolymer 32.5, a Bu acrylate-glycidyl methacrylate-Me methacrylate-styrene copolymer 10.8, an ethylene glycol-isophthalic acid-neopentyl glycol-terephthalic acid copolymer 51.9, 1,3,5-tris(2-carboxyethyl)isocyanurate 4.80, TiO<sub>2</sub> 25, Tinuvin 900 1.50, Tinuvin 144 1.00, Modaflow Powder III 2.31, and benzoin 1.00 part.  
ST powder coating acrylic polyester matte finish; isocyanurate carboxyethyl deriv crosslinker coating; epoxy acrylic resin polyester powder coating  
IT Coating materials  
(powder; matte powder-coating compns. with good impact and weather resistance and epoxy group-containing acrylic resin and polyester for use in)  
IT Crosslinking agents  
(triscarboxyalkylisocyanurate compds.; for matte powder-coating compns. containing epoxy group-containing acrylic resin and polyester)  
IT 2904-41-8, 1,3,5-Tris(2-carboxyethyl) isocyanurate 124396-76-5,  
1,3,5-Tris(2-hydroxyethyl)isocyanurate trisuccinate 206194-22-1  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinker; for matte powder-coating compns. containing epoxy group-containing acrylic resin and polyester)  
IT 27923-68-8, Ethylene glycol-isophthalic acid-neopentyl glycol-terephthalic acid copolymer 37953-21-2, Butyl acrylate-glycidyl methacrylate-methyl methacrylate-styrene copolymer 55567-80-1, Butyl methacrylate-glycidyl methacrylate-methyl methacrylate-styrene copolymer  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(matte powder-coating compns. with good impact and weather resistance and epoxy group-containing acrylic resin and polyester for use in)

L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1995:559652 CAPLUS  
DN 123:11974  
ED Entered STN: 19 May 1995  
TI 1,3,5-tris-(2-carboxyethyl)isocyanurate crosslinking agent for polyepoxide coatings  
IN Lees, Robert Gerald; Zezza, Charles Anthony.  
PA Cytec Technology Corp., USA  
SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08G059-42

ICS C09D133-06; C08G059-32

CC 42-9 (Coatings, Inks, and Related Products)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9417119	A1	19940804	WO 1994-US825	19940124
	W: CA, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5380804	A	19950110	US 1993-13593	19930127
	EP 681595	A1	19951115	EP 1994-907301	19940124
	EP 681595	B1	19981007		
	R: BE, DE, ES, FR, GB, IT, NL				
	JP 08506134	T2	19960702	JP 1994-517246	19940124
	ES 2122240	T3	19981216	ES 1994-907301	19940124
	NO 9502954	A	19950726	NO 1995-2954	19950726

PRAI US 1993-13593 A 19930127  
WO 1994-US825 W 19940124

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9417119	ICM C08G059-42 ICS C09D133-06; C08G059-32 IPCI C08G0059-42 [ICM,5]; C09D0133-06 [ICS,5]; C08G0059-32 [ICS,5]; C08G0059-00 [ICS,5,C*] IPCR C08G0059-00 [I,C*]; C08G0059-32 [I,A]; C08G0059-42 [I,A]; C09D0133-06 [I,A]; C09D0133-06 [I,C*]	
US 5380804	IPCI C08F0016-26 [ICM,6]; C08F0016-00 [ICM,6,C*]; C08F0020-32 [ICS,6]; C08F0020-00 [ICS,6,C*]; C08F0024-00 [ICS,6] IPCR C08G0059-00 [I,C*]; C08G0059-32 [I,A]; C08G0059-42 [I,A]; C09D0133-06 [I,A]; C09D0133-06 [I,C*] NCL 525/327.300; 525/934.000; 528/114.000; 528/367.000 ECLA C08G059/32B; C08G059/42H; C09D133/06B6+C5	
EP 681595	IPCI C08G0059-42 [ICM,6]; C09D0133-06 [ICS,6]; C08G0059-32 [ICS,6]; C08G0059-00 [ICS,6,C*] IPCR C08G0059-00 [I,C*]; C08G0059-32 [I,A]; C08G0059-42 [I,A]; C09D0133-06 [I,A]; C09D0133-06 [I,C*]	
JP 08506134	IPCI C08G0059-40 [ICM,6]; C08G0059-32 [ICS,6]; C08G0059-00 [ICS,6,C*]; C09D0133-14 [ICS,6]; C09D0163-00 [ICS,6]	
ES 2122240	IPCI C08G0059-42 [ICM,6]; C09D0133-06 [ICS,6]; C08G0059-32 [ICS,6]; C08G0059-00 [ICS,6,C*] IPCR C08G0059-00 [I,C*]; C08G0059-32 [I,A]; C08G0059-42 [I,A]; C09D0133-06 [I,A]; C09D0133-06 [I,C*]	
NO 9502954	IPCI C09D0163-00 [ICM,6]; C09D0005-03 [ICS,6] IPCR C08G0059-00 [I,C*]; C08G0059-32 [I,A]; C08G0059-42 [I,A]; C09D0133-06 [I,A]; C09D0133-06 [I,C*]	

AB The curable compns. employ 1,3,5-tris-(2-carboxyethyl)isocyanurate (TCI) as the polybasic carboxylic acid crosslinker. The crosslinker is combined with a polyepoxide such as those obtained by copolymerg. glycidyl methacrylate with  $\geq 1$  epoxy-free olefinically-unsatd. monomers. Heat curing the compns. of the invention produces hard films useful as chip-, scratch- and mar-resistant coatings for automotive applications and as general use coatings for industrial applications. A 50% DMF solution contained 82:18 Almatex PD7610 and TCI in addition to 2% (based on TCI) Ph3P and gave a film with pencil hardness 4H and good impact and salt spray resistance.

ST triscarboxyethylisocyanurate crosslinker epoxy resin coating

IT Coating materials

Crosslinking agents

(polyepoxide coatings containing tris(carboxyethyl)isocyanurate crosslinking agent for good chip and scratch and mar resistance)

IT Epoxy resins, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(acrylic, polyepoxide coatings containing tris(carboxyethyl)isocyanurate crosslinking agent for good chip and scratch and mar resistance)

IT 2904-41-8P

RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(polyepoxide coatings containing tris(carboxyethyl)isocyanurate crosslinking agent for good chip and scratch and mar resistance)

IT 2904-28-1P

RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(polyepoxide coatings containing tris(carboxyethyl)isocyanurate crosslinking agent for good chip and scratch and mar resistance)

IT 163688-59-3 163688-60-6 163688-61-7 163688-62-8 164081-60-1  
164081-61-2

RL: TEM (Technical or engineered material use); USES (Uses)

(polyepoxide coatings containing tris(carboxyethyl)isocyanurate

IT crosslinking agent for good chip and scratch and mar resistance)  
108-80-5, Isocyanuric acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with acrylonitrile; polyepoxide coatings containing  
tris(carboxyethyl)isocyanurate crosslinking agent for good chip and  
scratch and mar resistance)

IT 107-13-1, 2-Propenenitrile, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with isocyanuric acid; polyepoxide coatings containing  
tris(carboxyethyl)isocyanurate crosslinking agent for good chip and  
scratch and mar resistance)

L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1976:593543 CAPLUS  
DN 85:193543  
ED Entered STN: 12 May 1984  
TI Water-dilutable polyesters  
IN Sorokin, M. F.; Gershmanova, E. L.; Mikhitarova, Z. A.; Piskareva, G. V.;  
Stratonova, E. I.; Meshcheryakova, Z. M.; Zagranichnyi, V. I.  
PA Mendeleev, D. I., Chemical-Technological Institute, Moscow, USSR  
SO U.S.S.R.  
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1976, 53(33),  
78.  
CODEN: URXXAF

DT Patent  
LA Russian  
IC C08G003-58  
CC 36-3 (Plastics Manufacture and Processing)  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI SU 527450	T	19760905	SU 1975-2107647	19750224
PRAI SU 1975-2107647	A	19750224		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
SU 527450	IC	C08G003-58
	IPCI	C08G0063-58; C08G0063-00 [C*]
	IPCR	C08G0063-00 [I,C*]; C08G0063-58 [I,A]

AB Water-dilutable polyesters were produced by treating allyl  
glycidyl ether [106-92-3] with a mixture of polycarboxylic acids.  
To obtain polyesters with increased water stability and photostability, a  
mixture of aliphatic dicarboxylic acid with tris( $\beta$ -carboxyethyl)  
isocyanurate [2904-41-8] in an equimol. ratio was used for the  
mixture of polycarboxylic acids.

ST polyester water dilutable; allyl glycidyl ether polyester;  
carboxyethyl isocyanurate polyester

IT Polyesters, preparation

RL: PREP (Preparation)  
(from allyl glycidyl ether, tris(carboxyethyl) isocyanurate  
and aliphatic dicarboxylic acids, with increased water and light  
resistance)

IT 106-92-3D, Oxirane, [(2-propenyloxy)methyl]-, polymers with aliphatic  
dicarboxylic acid and tris(2-carboxyethyl) isocyanurate 2904-41-8D  
, 1,3,5-Triazine-1,3,5(2H,4H,6H)-tripropanoic acid, 2,4,6-trioxo-,  
polymers with allyl glycidyl ether and aliphatic dicarboxylic acid

RL: USES (Uses)  
(with increased water and light resistance, water-dilutable)

=> D HIS

(FILE 'HOME' ENTERED AT 19:02:03 ON 20 SEP 2006)

FILE 'CAPLUS' ENTERED AT 19:02:15 ON 20 SEP 2006

E WO2004090640/PN  
 L1 1 S E3

FILE 'REGISTRY' ENTERED AT 19:03:45 ON 20 SEP 2006  
 L2 1 S 2904-41-8/RN  
 SET NOTICE 1 DISPLAY  
 SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 19:03:59 ON 20 SEP 2006  
 L3 72 S L2  
 L4 7 S L3 AND GLYCIDYL

=> S L3 AND EPOX?  
 317303 EPOX?  
 L5 26 L3 AND EPOX?

=> S L5 NOT L4  
 L6 21 L5 NOT L4

=> D ALL 1-21

L6 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2004:52811 CAPLUS  
 DN 140:129116  
 ED Entered STN: 22 Jan 2004  
 TI 1,3,5-tris[2-(tert-butoxycarbonyloxy)ethyl] isocyanurate and their epoxy resin compositions with good storage stability and curability  
 IN Sakamoto, Yukihiro; Kano, Naoki  
 PA Shikoku Chemicals Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07D251-34  
 ICS C08G059-42  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 28

FAN.CNT 1	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004018452	A2	20040122	JP 2002-175002	20020614	
PRAI JP 2002-175002		20020614			

CLASS  
 PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

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JP 2004018452	ICM C07D251-34 ICS C08G059-42 IPCI C07D0251-34 [ICM,7]; C07D0251-00 [ICM,7,C*]; C08G0059-42 [ICS,7]; C08G0059-00 [ICS,7,C*] IPCR C07D0251-00 [I,C*]; C07D0251-34 [I,A]; C08G0059-00 [I,C*]; C08G0059-42 [I,A] FTERM 4J036/AD08; 4J036/AF01; 4J036/AF06; 4J036/AG00; 4J036/AK01; 4J036/DC16; 4J036/DC45			

AB 1,3,5-Tris[2-(tert-butoxycarbonyloxy)ethyl] isocyanurate (I) as curing agents and their epoxy resins compns. are claimed. The compns. are useful for coatings, adhesives, etc. Thus, a composition containing Epikote

828, I [manufactured from 1,3,5-tris(2-carboxyethyl) isocyanurate, SOC12, and tert-BuOH], and 2-phenylimidazole showed pot life  $\geq 10$  days at 25° and gelation time 4 min 19 s at 150°. The composition was applied on an Al sheet and heated at 150° for 30 min, showing pencil hardness 2H and good adhesion to the sheet.

ST butoxycarbonyloxyethyl isocyanurate curing agent epoxy resin; storage stability epoxy resin butoxycarbonyloxyethyl

isocyanurate; curability epoxy resin butoxycarbonyloxyethyl  
isocyanurate

IT Crosslinking agents  
(tris(tert-butoxycarbonyloxy)ethyl isocyanurate as curing agents for  
epoxy resin compns. with good storage stability and curability)

IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(tris(tert-butoxycarbonyloxy)ethyl isocyanurate-crosslinked;  
tris(tert-butoxycarbonyloxy)ethyl isocyanurate as curing agents for  
epoxy resin compns. with good storage stability and curability)

IT 649728-47-2P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(tris(tert-butoxycarbonyloxy)ethyl isocyanurate as curing agents for  
epoxy resin compns. with good storage stability and curability)

IT 33919-40-3P 649728-45-0P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(tris(tert-butoxycarbonyloxy)ethyl isocyanurate as curing agents for  
epoxy resin compns. with good storage stability and curability)

IT 75-65-0, tert-Butanol, reactions 2904-41-8, 1,3,5-Tris(2-  
carboxyethyl) isocyanurate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(tris(tert-butoxycarbonyloxy)ethyl isocyanurate as curing agents for  
epoxy resin compns. with good storage stability and curability)

L6 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2002:975666 CAPLUS  
DN 138:24737  
ED Entered STN: 27 Dec 2002  
TI Preparation of tris(2-hydrazinocarbonylethyl)isocyanurate  
IN Hyoda, Toshiharu; Kita, Michiharu  
PA Japan Hydrazine Company Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07D251-34  
CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))  
Section cross-reference(s): 37  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002371069	A2	20021226	JP 2001-182420	20010615
PRAI JP 2001-182420		20010615		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002371069	ICM	C07D251-34
	IPCI	C07D0251-34 [ICM,7]; C07D0251-00 [ICM,7,C*]
	IPCR	C07D0251-00 [I,C*]; C07D0251-34 [I,A]

OS CASREACT 138:24737; MARPAT 138:24737

AB The title compound (I), useful as epoxy resin curing agent and the formaldehyde adsorbent, high-mol. crosslinking agent, the high-mol. modifier adhesive, etc., is prepared from reaction of tris(2-alkoxycarbonylethyl)isocyanurateas or tris(2-carboxyethyl)isocyanurate with hydrazine hydrate. Thus, refluxing tris(2-methoxycarbonylethyl)isocyanurate with hydrazine hydrate in MeOH gave 85.4% I.

ST hydrazinocarbonylethylisocyanurate prepn  
IT 477836-37-6P  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP  
(Preparation)  
(preparation of tris(2-hydrazinocarbonylethyl)isocyanurate)

IT 2904-41-8, Tris(2-carboxyethyl)isocyanurate  
RL: RCT (Reactant); RACT (Reactant or reagent)

IT (preparation of tris(2-hydrazinocarbonyl)ethyl)isocyanurate)  
 13285-39-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation of tris(2-hydrazinocarbonyl)ethyl)isocyanurate)

L6 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2002:634373 CAPLUS  
 DN 137:170387  
 ED Entered STN: 22 Aug 2002  
 TI Thermosetting resin composition and semiconductor device and their  
 manufacture  
 IN Noro, Hiroshi; Fusumada, Mitsuaki  
 PA Nitto Denko Corporation, Japan  
 SO Eur. Pat. Appl., 32 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM H01L021-56  
 ICS H01L023-31; C08G059-00; C09D163-00; C08L063-00; C09J163-00  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1233446	A2	20020821	EP 2002-3138	20020214
	EP 1233446	A3	20030205		
	EP 1233446	B1	20040512		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2002241617	A2	20020828	JP 2001-37725	20010214
	JP 2002241472	A2	20020828	JP 2001-37726	20010214
	JP 2002241469	A2	20020828	JP 2001-37728	20010214
	TW 574739	B	20040201	TW 2002-91102188	20020207
	SG 111042	A1	20050530	SG 2002-743	20020208
	CN 1375521	A	20021023	CN 2002-105431	20020211
	US 2002151106	A1	20021017	US 2002-73422	20020213
	US 6617046	B2	20030909		
	JP 2003171535	A2	20030620	JP 2002-144080	20020520
	US 2003219619	A1	20031127	US 2003-392836	20030321
	US 6916538	B2	20050712		
	EP 1364979	A1	20031126	EP 2003-6808	20030326
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1459469	A	20031203	CN 2003-107965	20030327
PRAI	JP 2001-37725	A	20010214		
	JP 2001-37726	A	20010214		
	JP 2001-37728	A	20010214		
	JP 2001-301054	A	20010928		
	JP 2002-144080	A	20020520		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	EP 1233446	ICM	H01L021-56
		ICS	H01L023-31; C08G059-00; C09D163-00; C09J163-00
		IPCI	H01L0021-56 [ICM, 6]; H01L0021-02 [ICM, 6, C*]; H01L0023-31 [ICS, 6]; H01L0023-28 [ICS, 6, C*]; C08G0059-00 [ICS, 6]; C09D0163-00 [ICS, 6]; C08L0063-00 [ICS, 6]; C09J0163-00 [ICS, 6]
		IPCR	C08F0283-00 [I, C*]; C08F0283-10 [I, A]; C08G0059-00 [I, C*]; C08G0059-18 [I, A]; C08K0005-00 [I, C*]; C08K0005-11 [I, A]; H01L0021-02 [I, C*]; H01L0021-56 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]
		ECLA	C08F283/10; C08G059/18D; C08K005/11; H01L021/56F;

		H01L023/29P
JP 2002241617	IPCI	C08L0101-00 [ICM, 7]; C08G0059-62 [ICS, 7]; C08G0059-00 [ICS, 7, C*]; C08K0005-10 [ICS, 7]; C08K0005-00 [ICS, 7, C*]; H01L0021-60 [ICS, 7]; H01L0021-02 [ICS, 7, C*]; H01L0023-29 [ICS, 7]; H01L0023-31 [ICS, 7]; H01L0023-28 [ICS, 7, C*]
	IPCR	C08G0059-00 [I, C*]; C08G0059-62 [I, A]; C08K0005-00 [I, C*]; C08K0005-10 [I, A]; C08L0101-00 [I, A]; C08L0101-00 [I, C*]; H01L0021-02 [I, C*]; H01L0021-60 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]; H01L0023-31 [I, A]
JP 2002241472	IPCI	C08G0059-62 [ICM, 7]; C08G0059-00 [ICM, 7, C*]; C08K0005-10 [ICS, 7]; C08K0005-00 [ICS, 7, C*]; C08L0063-00 [ICS, 7]; C09K0003-10 [ICS, 7]; H01L0021-60 [ICS, 7]; H01L0021-02 [ICS, 7, C*]; H01L0023-29 [ICS, 7]; H01L0023-31 [ICS, 7]; H01L0023-28 [ICS, 7, C*]
	IPCR	C08G0059-00 [I, C*]; C08G0059-62 [I, A]; C08K0005-00 [I, C*]; C08K0005-10 [I, A]; C08L0063-00 [I, A]; C08L0063-00 [I, C*]; C09K0003-10 [I, A]; C09K0003-10 [I, C*]; H01L0021-02 [I, C*]; H01L0021-60 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]; H01L0023-31 [I, A]
JP 2002241469	IPCI	C08G0059-42 [ICM, 7]; C08G0059-00 [ICM, 7, C*]; C08K0005-10 [ICS, 7]; C08K0005-00 [ICS, 7, C*]; C08L0063-00 [ICS, 7]; H01L0021-60 [ICS, 7]; H01L0021-02 [ICS, 7, C*]; H01L0023-29 [ICS, 7]; H01L0023-31 [ICS, 7]; H01L0023-28 [ICS, 7, C*]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C08K0005-00 [I, C*]; C08K0005-10 [I, A]; C08L0063-00 [I, A]; C08L0063-00 [I, C*]; H01L0021-02 [I, C*]; H01L0021-60 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]; H01L0023-31 [I, A]
TW 574739	IPCI	H01L0021-60 [ICM, 7]; H01L0021-02 [ICM, 7, C*]; C08L0009-00 [ICS, 7]
SG 111042	IPCI	H01L0021-56 [ICM, 7]; H01L0021-02 [ICM, 7, C*]; H01L0023-31 [ICS, 7]; H01L0023-28 [ICS, 7, C*]; C08G0059-00 [ICS, 7]; C09D0163-00 [ICS, 7]; C08L0063-00 [ICS, 7]; C09J0163-00 [ICS, 7]
	IPCR	C08F0283-00 [I, C*]; C08F0283-10 [I, A]; C08G0059-00 [I, C*]; C08G0059-18 [I, A]; C08K0005-00 [I, C*]; C08K0005-11 [I, A]; H01L0021-02 [I, C*]; H01L0021-56 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]
	ECLA	C08F283/10; C08G059/18D; C08K005/11; H01L021/56F; H01L023/29P
CN 1375521	IPCI	C08L0063-00 [ICM, 7]; C08L0061-06 [ICS, 7]; C08L0061-00 [ICS, 7, C*]; H01L0023-29 [ICS, 7]; H01L0023-28 [ICS, 7, C*]
	IPCR	C08F0283-00 [I, C*]; C08F0283-10 [I, A]; C08G0059-00 [I, C*]; C08G0059-18 [I, A]; C08K0005-00 [I, C*]; C08K0005-11 [I, A]; H01L0021-02 [I, C*]; H01L0021-56 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]
US 2002151106	IPCI	H01L0021-44 [ICM, 7]; H01L0021-48 [ICS, 7]; H01L0021-50 [ICS, 7]; H01L0021-02 [ICS, 7, C*]
	IPCR	C08F0283-00 [I, C*]; C08F0283-10 [I, A]; C08G0059-00 [I, C*]; C08G0059-18 [I, A]; C08K0005-00 [I, C*]; C08K0005-11 [I, A]; H01L0021-02 [I, C*]; H01L0021-56 [I, A]; H01L0023-28 [I, C*]; H01L0023-29 [I, A]
	NCL	438/118.000; 257/E21.503; 257/E23.119; 438/460.000
	ECLA	C08F283/10; C08G059/18D; C08K005/11; H01L021/56F; H01L023/29P
JP 2003171535	IPCI	C08L0063-00 [ICM, 7]; C08G0059-62 [ICS, 7]; C08G0059-00 [ICS, 7, C*]; H01L0021-60 [ICS, 7]; H01L0021-02 [ICS, 7, C*]; H01L0023-29 [ICS, 7]; H01L0023-31 [ICS, 7]; H01L0023-28 [ICS, 7, C*]; C08L0071-00 [ICS, 7]
	IPCR	C08G0059-00 [I, C*]; C08G0059-62 [I, A]; C08L0063-00 [I, A]; C08L0063-00 [I, C*]; H01L0021-02 [I, C*];

		H01L0021-60 [I,A]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]; H01L0023-31 [I,A]
US 2003219619	IPCI	H01L0029-12 [ICM,7]; H01L0029-02 [ICM,7,C*]
	IPCR	C08G0059-00 [I,C*]; C08G0059-18 [I,A]; H01L0021-02 [N,C*]; H01L0021-56 [N,A]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]
	NCL	428/620.000; 257/E21.503; 257/E23.119
	ECLA	C08G059/18D; H01L023/29P
EP 1364979	IPCI	C08G0059-18 [ICM,7]; C08G0059-22 [ICS,7]; C08G0059-40 [ICS,7]; C08G0059-38 [ICS,7]; C08G0059-00 [ICS,7,C*]; C08L0063-00 [ICS,7]
	IPCR	C08G0059-00 [I,C*]; C08G0059-18 [I,A]; H01L0021-02 [N,C*]; H01L0021-56 [N,A]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]
	ECLA	C08G059/18D; H01L023/29P
CN 1459469	IPCI	C08L0063-00 [ICM,7]; C09K0003-00 [ICS,7]; H01L0023-28 [ICS,7]
	IPCR	C08G0059-00 [I,C*]; C08G0059-18 [I,A]; H01L0021-02 [N,C*]; H01L0021-56 [N,A]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]

- AB A thermosetting resin composition is usable for sealing a gap formed between a printed circuit board and a semiconductor element in a semiconductor package having a face-down structure. The title composition contains epoxy resin, crosslinker (e.g. phenolic), optional encapsulated accelerator, a flux active agent compound R1(CO2ChMeOR2)<sub>n</sub> or a divinyl compound CH2:CHOR4OCHMe(OCOR3CO2CHMeOR4OCHMe)<sub>n</sub>OCOR3CO2CHMeOR4OCH:CH2; where R1 = organic group; R2 = monovalent organic group and R1 and R2 may be the same or different; R3, R4 = divalent organic group, the same or different; n = integer, such as adipic acid Pr vinyl ether adduct.
- ST adipic acid propyl vinyl ether flux active additive; epoxy semiconductor potting flux active additive.
- IT Crosslinking catalysts  
(encapsulated; thermosetting resin composition for semiconductor devices)
- IT Phenolic resins, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(novolak, cure agent; thermosetting resin composition for semiconductor devices)
- IT Semiconductor devices  
(thermosetting resin composition for)
- IT Potting compositions  
(thermosetting resin composition for semiconductor devices)
- IT Epoxy resins, properties  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(thermosetting resin composition for semiconductor devices)
- IT 85-42-7, Hexahydrophthalic anhydride 19438-60-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(cure agent; thermosetting resin composition for semiconductor devices)
- IT 9016-87-9, Polymethylene phenylene isocyanate 28805-80-3 55171-92-1,  
Trimethylolpropane-xylylene diisocyanate adduct  
RL: TEM (Technical or engineered material use); USES (Uses)  
(encapsulated accelerator; thermosetting resin composition for semiconductor devices)
- IT 103-44-6D, 2-Ethylhexyl vinyl ether, reaction products with trimellitic acid 124-04-9D, Adipic acid, reaction products with vinyl ether 528-44-9D, Trimellitic acid, reaction products with Pr vinyl ether 764-47-6D, Propyl vinyl ether, reaction products with carboxylic acids or derivs. 2182-55-0D, Cyclohexyl vinyl ether, reaction products with adipic acid 2904-41-8D, reaction products with Pr vinyl ether  
RL: MOA (Modifier or additive use); USES (Uses)  
(thermosetting resin composition for semiconductor devices)
- IT 25068-38-6, Bisphenol A epoxy resin  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or

engineered material use); USES (Uses)  
(thermosetting resin composition for semiconductor devices)

L6 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2002:384370 CAPLUS  
DN 136:387151  
ED Entered STN: 23 May 2002  
TI Epoxy resin curable flux containing hemiacetal ester and  
soldered joint thereof  
IN Nakamura, Kensuke; Hozumi, Takeshi; Takahashi, Toyomasa; Okada, Ryoichi;  
Kimura, Ryota  
PA Sumitomo Bakelite Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08L063-00  
ICS C08G059-42; C08L029-14; H05K003-34  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 56, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002146159	A2	20020522	JP 2000-341101	20001108
PRAI	JP 2000-341101			20001108	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002146159	ICM	C08L063-00
	ICS	C08G059-42; C08L029-14; H05K003-34
	IPCI	C08L0063-00 [ICM,7]; C08G0059-42 [ICS,7]; C08G0059-00 [ICS,7,C*]; C08L0029-14 [ICS,7]; C08L0029-00 [ICS,7,C*]; H05K0003-34 [ICS,7]
	IPCR	C08G0059-00 [I,C*]; C08G0059-42 [I,A]; C08L0029-00 [I,C*]; C08L0029-14 [I,A]; C08L0063-00 [I,A]; C08L0063-00 [I,C*]; H05K0003-34 [I,A]; H05K0003-34 [I,C*]

AB Title composition comprises (A) epoxy resin (e.g., RE 810NM  
(diarylbisphenol A epoxy resin)), and (B) a resin containing  
≥1 hemiacetal ester structure derived from a carboxylic compound and  
a vinyl ether resin via thermal disassocn. (e.g., tris(2-carboxylethyl)  
isocyanurate and Pr vinyl ether). The flux demonstrating high elec.  
insulation, bonding strength, and reliability and is especially suitable for  
semiconductor packaging.

ST epoxy resin curable flux hemiacetal ester soldered joint

IT Soldering

(fluxes; manufacture of epoxy resin curable flux containing hemiacetal  
ester and soldered joint)

IT Crosslinking

Electronic packaging materials

Fluxes

(manufacture of epoxy resin curable flux containing hemiacetal ester  
and soldered joint)

IT Epoxy resins, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(manufacture of epoxy resin curable flux containing hemiacetal ester  
and soldered joint)

IT Joints, mechanical

(soldered; manufacture of epoxy resin curable flux containing  
hemiacetal ester and soldered joint)

IT 528-44-9D, Trimellitic acid, reaction products with Pr vinyl ether,  
polymers 764-47-6D, n-Propylvinyl ether, reaction products with  
trimellitic acid or tris(2-carboxylethyl)isocyanurate, polymers  
2904-41-8D, Tris(2-carboxylethyl) isocyanurate, reaction products  
with Pr vinyl ether, polymers 67729-67-3, RE 810NM

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(manufacture of epoxy resin curable flux containing hemiacetal ester and soldered joint)

L6 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2001:718335 CAPLUS  
DN 136:103115  
ED Entered STN: 03 Oct 2001  
TI Thermal latent polyhydric acid derivatives and their application to network polymers. (II). Evaluation as a novel latent hardener for an epoxy resin  
AU Ishidoya, Masahiro; Sato, Koji; Endo, Takeshi  
CS Dev. Sales Dep. 2, Electron. Mater. Dep., NOF Corp., Tokyo, 150-6019, Japan  
SO Nettowaku Porima (2001), 22(3), 124-132  
CODEN: NPORF2; ISSN: 1342-0577  
PB Gosei Jushi Kogyo Kyokai  
DT Journal  
LA Japanese  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38  
AB The study was conducted on the phys. properties of an esterified hemiacetal compound from a polyhydric carboxylic acid derivative and an epoxy resin, as well as on the crosslinking reaction, the cured film characteristic and storage stability. Consequently, it was possible to obtain an one-package thermosetting compound by using an esterified hemiacetal compound from a polyhydric carboxylic acid derivative as a hardener. Based on the examination of crosslinking reaction in the presence of latent catalyst, it was suggested that a hemiacetal ester moiety directly attacked an epoxide to cleave it into a carboxy anion and an alkoxyalkyl cation preferentially. And, this reaction was found to advance stoichiometrically. It was possible to obtain a transparent and tough cured film according to this reaction. Furthermore, although the storage stability of the compound changed with the types of hardeners to be used, the improvement of the stability could be attained by the addition of alkyl vinyl ether even in the compound having inferior storage stability.  
ST epoxy thermal latent hardener polycarboxylic hemiacetal;  
trimellitic hemiacetal thermal crosslinking epoxy resin;  
carboxyethyl isocyanurate hemiacetal latent hardener epoxy  
IT Glass transition temperature  
Plastic films  
Viscosity  
(evaluation of polybasic acid hemiacetal derivs. as thermal latent hardeners for epoxy resins)  
IT Epoxy resins, properties  
RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(evaluation of polybasic acid hemiacetal derivs. as thermal latent hardeners for epoxy resins)  
IT Crosslinking agents  
Crosslinking catalysts  
(latent; evaluation of polybasic acid hemiacetal derivs. as thermal latent hardeners for epoxy resins)  
IT Crosslinking  
(thermal; evaluation of polybasic acid hemiacetal derivs. as thermal latent hardeners for epoxy resins)  
IT 528-44-9, 1,2,4-Benzenetricarboxylic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(FTMA; evaluation of polybasic acid hemiacetal derivs. as thermal latent hardeners for epoxy resins)  
IT 221640-97-7P 307496-10-2P  
RL: MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(evaluation of polybasic acid hemiacetal derivs. as thermal latent

IT      hardeners for epoxy resins)  
 25085-99-8, Epikote 828EL  
 RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (evaluation of polybasic acid hemiacetal derivs. as thermal latent  
 hardeners for epoxy resins)  
 IT      764-47-6, Propyl vinyl ether 2904-41-8, Tris(2-carboxyethyl) isocyanurate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (evaluation of polybasic acid hemiacetal derivs. as thermal latent  
 hardeners for epoxy resins)  
 IT      388610-32-0, Nofcure LC 3  
 RL: CAT (Catalyst use); USES (Uses)  
 (thermal latent catalyst; evaluation of polybasic acid hemiacetal  
 derivs. as thermal latent hardeners for epoxy resins)

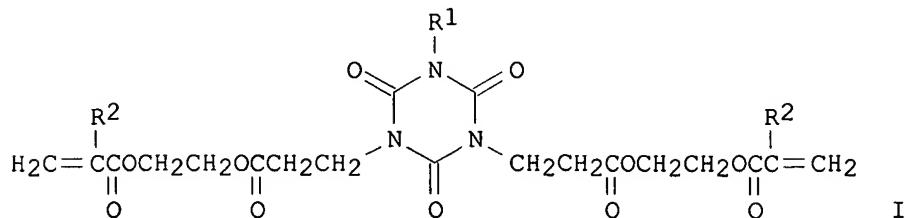
L6      ANSWER 6 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN      2001:107891 CAPLUS  
 DN      134:163817  
 ED      Entered STN: 13 Feb 2001  
 TI      Crosslinkable isocyanurate ring-containing esters and the preparation  
 IN      Sakamoto, Yukihiro; Nakaki, Junji  
 PA      Shikoku Chemicals Corp., Japan  
 SO      Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT      Patent  
 LA      Japanese  
 IC      ICM C07D251-34  
 CC      37-2 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001039956 JP 3715840	A2 B2	20010213 20051116	JP 1999-211068	19990726
PRAI	JP 1999-211068		19990726		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001039956	ICM	C07D251-34
	IPCI	C07D0251-34 [ICM, 7]
	IPCR	C07D0251-00 [I, C*]; C07D0251-34 [I, A]

OS      MARPAT 134:163817  
 GI



AB      Title ester I (R1 = H, -CH<sub>2</sub>CH<sub>2</sub>COOCH<sub>2</sub>CH<sub>2</sub>OOC(R2):CH<sub>2</sub>; R2 = H, CH<sub>3</sub>) is prepared by reacting 1,3,5-tris(2-carboxyethyl) isocyanurate, thionyl chloride, and 2-hydroxyethyl (meth)acrylate. Thus, 16.06 g 1,3,5-tris(2-chloroformylethyl) isocyanurate obtained from 1,3,5-tris(2-carboxyethyl)isocyanurate and thionyl chloride was reacted with 17 mL 2-hydroxyethyl methacrylate to form 19.46 g 1,3,5-tris[2-(2-methacrylolethoxy)carbonylethyl] isocyanurate, 100 parts of which was mixed with 1 part 2,2'-azobisisobutyronitrile, coated on a steel plate, and cured at 70° for 30 min, showing pencil hardness

4H and good adhesion.

ST isocyanurate ester crosslinking agent epoxy resin; carboxyethyl isocyanurate thionyl chloride hydroxyethyl methacrylate reaction

IT Chlorination

Esterification  
 (preparation of crosslinkable isocyanurate ring-containing esters from carboxyethyl isocyanurates, thionyl chloride and hydroxyethyl (meth)acrylates)

IT 325476-75-3P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of crosslinkable isocyanurate ring-containing esters from carboxyethyl isocyanurates, thionyl chloride and hydroxyethyl (meth)acrylates)

IT 33919-40-3P 60900-78-9P 325476-72-0P 325476-74-2P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of crosslinkable isocyanurate ring-containing esters from carboxyethyl isocyanurates, thionyl chloride and hydroxyethyl (meth)acrylates)

IT 325476-73-1P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of crosslinkable isocyanurate ring-containing esters from carboxyethyl isocyanurates, thionyl chloride and hydroxyethyl (meth)acrylates)

IT 868-77-9, 2-Hydroxyethyl methacrylate 2904-40-7 2904-41-8,  
 1,3,5-Tris(2-carboxyethyl)isocyanurate 7719-09-7, Thionyl chloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of crosslinkable isocyanurate ring-containing esters from carboxyethyl isocyanurates, thionyl chloride and hydroxyethyl (meth)acrylates)

L6 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:833315 CAPLUS  
 DN 134:5541  
 ED Entered STN: 29 Nov 2000  
 TI Epoxy resin compositions containing tris(2-carboxyethyl)isocyanurate imidazoline salt curing agents having good curability and storage stability  
 IN Sakamoto, Yukihiro; Iwasaki, Yoshinari; Nakagi, Junji  
 PA Shikoku Chemicals Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08G059-50  
 CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000327753 JP 3413370	A2 B2	20001128 20030603	JP 1999-144060	19990524
PRAI	JP 1999-144060		19990524		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000327753	ICM IPCI IPC	C08G059-50 C08G0059-50 [ICM, 7] C08G0059-00 [I, C*]; C08G0059-40 [I, A]; C08G0059-50 [I, A]

AB The composition comprises an epoxy resin having >2 epoxy groups/mol and a 1,3,5-tris(2-carboxyethyl)isocyanurate imidazoline salt, wherein the equivalent ratio of the epoxy group in the epoxy resin to the carboxy group in the isocyanurate is 1-15. Thus, 100 parts

Epikote 828 (bisphenol A epoxy resin) was mixed with 38 parts  
 1,3,5-tris(2-carboxyethyl)isocyanurate methylimidazoline salt and cured at  
 150° showing gel time 194 s, and good storage stability.  
 ST epoxy resin compn storage stability; carboxyethyl isocyanurate  
 imidazoline salt curing agent  
 IT Epoxy resins, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (epoxy resin compns. containing tris(2-carboxyethyl)isocyanurate  
 imidazoline salt curing agents having good curability and storage  
 stability)  
 IT 308123-16-2P 308123-18-4P 308123-20-8P 308123-22-0P 308123-24-2P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (epoxy resin compns. containing tris(2-carboxyethyl)isocyanurate  
 imidazoline salt curing agents having good curability and storage  
 stability)  
 IT 105-28-2, 2-Heptadecylimidazoline 534-26-9, 2-Methylimidazoline  
 931-35-1 936-49-2, 2-Phenylimidazoline 2904-41-8,  
 Tris(2-carboxyethyl)isocyanurate 10443-61-5, 2-Undecylimidazoline  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of tris(2-carboxyethyl)isocyanurate imidazoline salt curing  
 agents h)

L6 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:817501 CAPLUS  
 DN 133:363795  
 ED Entered STN: 21 Nov 2000  
 TI Tris(2-carboxyethyl) isocyanurate derivatives having excellent solubility  
 in solvents and compatibility with resins for crosslinking agents of  
 coatings  
 IN Sato, Atsushi; Nakanishi, Futoshi; Sato, Hiroshi; Ishitoya, Masahiro  
 PA Nippon Oil and Fats Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07D251-34  
 ICS C09D175-04  
 CC 42-3 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 28

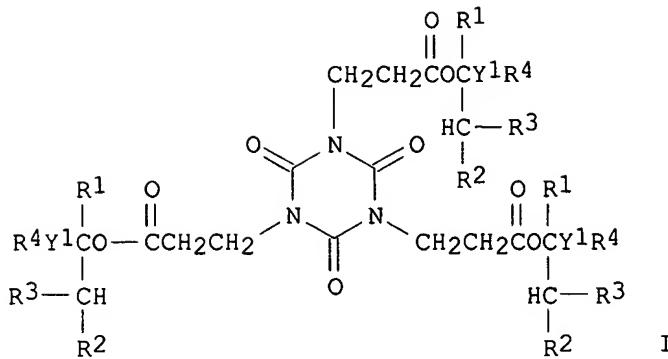
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000319267	A2	20001121	JP 1999-123130	19990428
PRAI	JP 1999-123130			19990428	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000319267	ICM ICS IPCI IPCR	C07D251-34 C09D175-04 C07D0251-34 [ICM,7]; C09D0175-04 [ICS,7] C07D0251-00 [I,C*]; C07D0251-34 [I,A]; C09D0175-04 [N,A]; C09D0175-04 [N,C*]

OS MARPAT 133:363795  
 GI



AB Title compds. I ( $\text{R}^1-\text{R}^3 = \text{H}$ , C1-18 organic group;  $\text{R}^4 = \text{C1-18 organic group}$ ;  $\text{R}^3\text{R}^4$  may form a heterocyclic ring with  $\text{Y}^1$ ;  $\text{Y}^1 = \text{O, S}$ ) are manufactured. Thus, tris(2-carboxyethyl) isocyanurate was reacted with Pr vinyl ether in the presence of  $\text{MePO}_4$  and phosphoric acid ester catalyst (AP 8) at  $50^\circ$  to give a mixture containing 46.7% I ( $\text{R}^1-\text{R}^3 = \text{H}$ ,  $\text{R}^4 = \text{C3H}_7$ ,  $\text{Y}^1 = \text{O}$ ), which was mixed with Epikote 828 with  $\text{CO}_2\text{H}/\text{epoxy group molar ratio of 0.9/1}$ , applied on a plate, and cured to give a coating showing good appearance and pencil hardness H.

ST carboxyethyl isocyanurate manuf crosslinking agent coating

IT Crosslinking agents

(manufacture of tris(carboxyethyl) isocyanurate derivs. having good solubility in

solvents and compatibility with resins for crosslinking agents of coatings)

IT Coating materials

(one-component; manufacture of tris(carboxyethyl) isocyanurate derivs. having good solubility in solvents and compatibility with resins for crosslinking agents of coatings)

IT 307496-10-2P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (crosslinking agent; manufacture of tris(carboxyethyl) isocyanurate derivs. having good solubility in solvents and compatibility with resins for crosslinking agents of coatings)

IT 307496-11-3P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of tris(carboxyethyl) isocyanurate derivs. having good solubility in  
solvents and compatibility with resins for crosslinking agents of coatings)

IT 764-47-6 2904-41-8, Tris(2-carboxyethyl) isocyanurate

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of tris(carboxyethyl) isocyanurate derivs. having good solubility in  
solvents and compatibility with resins for crosslinking agents of coatings)

L6 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:151741 CAPLUS

DN 133:44912

ED Entered STN: 07 Mar 2000

TI Tris(2-carboxyethyl)isocyanurate (CIC Acid). as crosslinking agent in coating

AU Sakamoto, Yukihiro; Iwasaki, Yoshiya; Nakagi, Junji

CS Process Dev. Team, Shikoku Chemicals Corp., Japan

SO Toso to Togyo (2000), 602, 31-34

CODEN: TOTTAJ; ISSN: 0372-0527

PB Toryo Shuppansha  
 DT Journal; General Review  
 LA Japanese  
 CC 42-0 (Coatings, Inks, and Related Products)  
 AB A review with 5 refs. on the properties of 2 chemical compds. as crosslinking agents for coatings; one is mentioned in the title and the other bis(2-carboxy Et)isocyanurate (their trade names are CIC Acid and Bis-CIC Acid resp.). Film properties of solvent-soluble coating containing triglycidyl isocyanurate as a base resin with CIC Acid and also of polyepoxide powder coating with a mixture of CIC Acid and dodecanedioic acid are described. CIC Acid derivs. having lower m.ps. are mentioned.  
 ST review triscarboxyethyl isocyanurate crosslinking agent coating  
 IT Coating materials  
 Crosslinking agents  
     (triscarboxyethyl isocyanurate as crosslinking agent in coatings)  
 IT Epoxy resins, uses  
     RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
         (triscarboxyethyl isocyanurate as crosslinking agent in coatings)  
 IT 2904-40-7  
     RL: TEM (Technical or engineered material use); USES (Uses)  
         (as crosslinking agent in coatings)  
 IT 2451-62-9D, Triglycidyl isocyanurate, polymers  
     RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
         (triscarboxyethyl isocyanurate as crosslinking agent in coatings)  
 IT 2904-41-8, Tris(2-carboxy ethyl)isocyanurate  
     RL: TEM (Technical or engineered material use); USES (Uses)  
         (triscarboxyethyl isocyanurate as crosslinking agent in coatings)

L6 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:137330 CAPLUS  
 DN 132:181455  
 ED Entered STN: 29 Feb 2000  
 TI Epoxy resin compositions containing isocyanuric acid derivatives with long pot life and excellent curability  
 IN Sakamoto, Yukihiro; Iwasaki, Yoshinari; Nakaki, Junji  
 PA Shikoku Chemicals Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08G059-40  
     ICS C07D251-34  
 CC 37-6 (Plastics Manufacture and Processing)  
     Section cross-reference(s): 28, 38, 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000063489	A2	20000229	JP 1998-235495	19980821
	JP 3781397	B2	20060531		
PRAI	JP 1998-235495		19980821		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000063489	ICM C08G059-40 ICS C07D251-34 IPCI C08G0059-40 [I,A]; C08G0059-00 [I,C*]; C07D0251-34 [I,A]; C07D0251-00 [I,C*] IPCR C07D0251-00 [N,C*]; C07D0251-34 [N,A]; C08G0059-00 [I,C*]; C08G0059-40 [I,A]	

OS MARPAT 132:181455  
 AB The compns., useful for coatings, adhesives, moldings, elec. insulators, etc., contain epoxy resins having ≥2 epoxy groups and 1,3,5-tris(2-carboxyethyl) isocyanurate esters with

R-substituted phenols (R = H, C1-4 alkyl, aryl, aralkyl, nitro, halo). Thus, a composition containing 100 parts Epikote 828 (epoxy resin) and 103 parts 1,3,5-tris(phenoxy carbonyl ethyl) isocyanurate showing pot life >20 days at 25° and gelation time 4.5 min at 150° was molded into test pieces showing flexural modulus 320 kg/mm<sup>2</sup>, Charpy impact strength 3.3 kJ/m<sup>2</sup>, and volume resistivity 1.84 + 1015 Ω-cm.

ST epoxy resin carboxyethyl isocyanurate crosslinking curability; phenoxy carbonyl ethyl isocyanurate crosslinking pot life

IT Adhesives  
(cold-curable; epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT Crosslinking agents

Electric insulators  
(epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(isocyanate-crosslinked; epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT Coating materials  
(low-temperature-curable; epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT 245726-67-4P 245726-69-6P 245726-70-9P 245726-71-0P 245726-72-1P  
245726-73-2P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(crosslinking agent; epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT 259254-05-2P 259254-06-3P 259254-07-4P 259254-08-5P 259254-09-6P  
259254-10-9P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT 33919-40-3P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

IT 92-69-3, 4-Phenylphenol 100-02-7, reactions 101-53-1, 4-Benzylphenol 106-44-5, p-Cresol, reactions 106-48-9, 4-Chlorophenol 108-95-2, Phenol, reactions 2904-41-8, 1,3,5-Tris(2-carboxyethyl) isocyanurate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(epoxy resin compns. containing carboxyethyl isocyanurate esters for long pot life and good curability)

L6 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:681479 CAPLUS  
DN 131:300634  
ED Entered STN: 27 Oct 1999  
TI Fire-resistant epoxy coating compositions  
IN Sakamoto, Yukihiro; Hasebe, Akihisa; Nakagi, Junji  
PA Shikoku Chemicals Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C09D163-06  
      ICS C08G059-42; C07D251-34  
CC 42-9 (Coatings, Inks, and Related Products),  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 11293189	A2	19991026	JP 1998-101617	19980414
PRAI	JP 1998-101617		19980414		
CLASS					
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES					
-----					
JP 11293189	ICM C09D163-06 ICS C08G059-42; C07D251-34 IPCI C09D0163-06 [ICM,6]; C08G0059-42 [ICS,6]; C07D0251-34 [ICS,6] IPCR C07D0251-00 [N,C*]; C07D0251-34 [N,A]; C08G0059-00 [I,C*]; C08G0059-42 [I,A]; C09D0163-06 [I,A]; C09D0163-06 [I,C*]				
AB	Title compns., with good curability and providing colorless and transparent coatings with good adhesion to metal substrate, comprise an epoxy resin having >2 epoxy groups, 1,3,5-tris(2-carboxyethyl)isocyanurate, 1-50 weight% (based on the total weight of the epoxy resin and the isocyanurate) of non-halogen phosphoric acid esters, and 10-500 weight% (based on the total weight of rest of the components) an organic solvent with solubility parameter of 8.0-13.0. The equivalent ratio of the epoxy group in the epoxy resin to the carboxy group in the isocyanurate is in the range of 0.5-4.0.				
ST	epoxy coating fire resistant; isocyanurate carboxyethyl epoxy coating				
IT	Epoxy resins, uses RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (fire-resistant epoxy coating compns.)				
IT	Coating materials (fire-resistant; fire-resistant epoxy coating compns.)				
IT	512-56-1, Trimethyl phosphate 2904-41-8, 1,3,5-Tris(2-carboxyethyl)isocyanurate RL: MOA (Modifier or additive use); USES (Uses) (fire-resistant epoxy coating compns.)				
IT	28825-96-9, TEPIC S RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (fire-resistant epoxy coating compns.)				
IT	68-12-2, uses RL: TEM (Technical or engineered material use); USES (Uses) (fire-resistant epoxy coating compns.)				
L6	ANSWER 12 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN				
AN	1999:680219 CAPLUS				
DN	131:300633				
ED	Entered STN: 26 Oct 1999				
TI	Epoxy resin coating compositions with good curability at relatively low temperature and adhesion to metal surface				
IN	Sakamoto, Yukihiro; Hasebe, Akihisa; Nakaki, Junji				
PA	Shikoku Chemicals Corp., Japan				
SO	Jpn. Kokai Tokkyo Koho, 3 pp. CODEN: JKXXAF				
DT	Patent				
LA	Japanese				
IC	ICM C09D163-00				
CC	42-9 (Coatings, Inks, and Related Products)				
FAN.CNT 1					
PATENT NO. KIND DATE APPLICATION NO. DATE					
-----					
PI	JP 11293187	A2	19991026	JP 1998-100922	19980413
PRAI	JP 1998-100922		19980413		
CLASS					
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES					
-----					

JP 11293187 ICM C09D163-00  
 IPCI C09D0163-00 [ICM, 6]  
 IPCR C09D0163-00 [I, A]; C09D0163-00 [I, C\*]  
 AB The compns. giving cured coat films with good transparency, comprise (A) epoxy resins bearing  $\geq 2$  epoxy groups, (B) 1,3,5-tris(2-carboxyethyl) isocyanurate (I) as curing agent, and organic solvents having solubility parameter 8.0-13.0 at the epoxy group/COOH (of I) equivalent ratio of 0.5-4.0:1 and solvent content 10-500% based on A+B. Thus, a composition of TEPIC-S (isocyanurate-type epoxy resin) 100, I 50, and DMF 200 parts showed gel time 40 s and pot life 4 days.  
 ST pot life epoxy resin curing carboxyethyl isocyanurate; gel time epoxy resin curing carboxyethyl isocyanurate  
 IT Coating materials  
 Crosslinking agents  
 (epoxy resin coating compns. with good curability at relatively low temperature and adhesion to metal surface)  
 IT Epoxy resins, uses  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (epoxy resin coating compns. with good curability at relatively low temperature and adhesion to metal surface)  
 IT Solvents  
 (organic; epoxy resin coating compns. with good curability at relatively low temperature and adhesion to metal surface)  
 IT 2904-41-8, 1,3,5-Tris(2-carboxyethyl) isocyanurate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (curing agents; epoxy resin coating compns. with good curability at relatively low temperature and adhesion to metal surface)  
 IT 28825-96-9, TEPIC-S  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (epoxy resin coating compns. with good curability at relatively low temperature and adhesion to metal surface)  
 IT 68-12-2, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvents; epoxy resin coating compns. with good curability at relatively low temperature and adhesion to metal surface)

L6 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1996:391589 CAPLUS  
 DN 125:59986  
 ED Entered STN: 09 Jul 1996  
 TI Novel epoxy compounds with triazine ring skeleton and their manufacture  
 IN Myake, Satoshi; Ikeda, Hisao; Hidaka, Motohiko; Moro, Takeo  
 PA Nissan Chemical Ind Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM C07D405-14  
 ICS C08G059-32  
 ICI C07D405-14, C07D251-34, C07D303-48  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08081461 JP 3368680	A2 B2	19960326 20030120	JP 1994-217042	19940912
PRAI	JP 1994-217042		19940912		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 08081461	ICM	C07D405-14

ICS C08G059-32  
 ICI C07D405-14, C07D251-34, C07D303-48  
 IPCI C07D0405-14 [ICM,6]; C08G0059-32 [ICS,6]; C07D0405-14  
 [ICI,6]; C07D0251-34 [ICI,6]; C07D0303-48 [ICI,6]

OS MARPAT 125:59986  
 AB The epoxy compds. with good workability, giving resins with good weather and heat resistance are manufactured by addition reaction of tri(carboxyalkyl)isocyanurates with epihalohydrins and treating the resulting esters with an alkali substance. Refluxing tri(carboxymethyl)isocyanurate 101,  $\alpha$ -epichlorohydrin 625, and Me<sub>4</sub>N<sup>+</sup> Cl-3 g at 100° and adding 120 g 50% NaOH over 3 h while removing the formed water and unreacted reactant gave tri(carboxymethyl)isocyanurate triglycidyl ester (I). I 100, Me humic anhydride 90.5, and DMP 30 3 parts gave a cured resin with glass temperature 195°.  
 ST epoxy compd triazine ring; weather heat resistance epoxy resin; tricarboxymethylisocyanurate epichlorohydrin epoxy resin  
 IT Heat-resistant materials  
     (manufacture of novel epoxy compds. with triazine ring skeleton for resins with good heat and weather resistance)  
 IT Epoxy resins, preparation  
     RL: IMF (Industrial manufacture); PREP (Preparation)  
     (manufacture of novel epoxy compds. with triazine ring skeleton for resins with good heat and weather resistance)  
 IT Epoxides  
     RL: IMF (Industrial manufacture); PREP (Preparation)  
     (tri-, manufacture of novel epoxy compds. with triazine ring skeleton)  
 IT 178200-12-9P 178200-13-0P 178200-14-1P  
     RL: IMF (Industrial manufacture); PREP (Preparation)  
     (manufacture of novel epoxy compds. with triazine ring skeleton for resins with good heat and weather resistance)  
 IT 178200-15-2P 178200-16-3P 178200-17-4P  
     RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)  
     (manufacture of novel epoxy compds. with triazine ring skeleton for resins with good heat and weather resistance)  
 IT 1968-52-1 2904-41-8  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
     (reaction with epichlorohydrin; manufacture of novel epoxy compds. with triazine ring skeleton for resins with good heat and weather resistance)  
 IT 106-89-8, reactions 598-09-4,  $\beta$ -Methyl-epichlorohydrin  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
     (reaction with tri(carboxyalkyl)isocyanurate; manufacture of novel epoxy compds. with triazine ring skeleton for resins with good heat and weather resistance)

L6 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1984:634352 CAPLUS  
 DN 101:234352  
 ED Entered STN: 22 Dec 1984  
 TI Binder for molding sand  
 PA Nissan Motor Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC B22C001-22; C08G018-30; C08G018-58  
 CC 56-2 (Nonferrous Metals and Alloys)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 59107742	A2	19840622	JP 1982-214938	19821208
PRAI JP 1982-214938		19821208		

CLASS  
 PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

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JP 59107742      IC      B22C001-22; C08G018-30; C08G018-58  
IPC1      B22C0001-22; B22C0001-16 [C\*]; C08G0018-30;  
              C08G0018-58; C08G0018-00 [C\*]  
IPCR      B22C0001-16 [I,C\*]; B22C0001-22 [I,A]

AB      The binder contains 1 of polyhydric carboxylic compds. having isocyanuric rings, polyhydric alc. compds. having isocyanuric rings, and multivalent amine compds. having isocyanuric rings, and 1 of multivalent epoxy compds. and block isocyanate compds. Thus, 4 kg sand (150°) was coated with Epikote 1004 [25068-38-6] 68.5, tris(2-carboxyethyl) isocyanurate [2904-41-8] 8.5, 2-ethyl-4-methylimidazole 3, and Ca stearate 3 g, molded, and fired to make a core. The latter was placed in a mold and molten Al alloy (AC 2A [39438-86-3]) was poured in the mold. The disintegration of the core after 5 min was 100%, compared to 27 for a conventional coated sand.

ST      epoxy binder mold core; sand coating epoxy resin mold; carboxylic compd coating sand; alc compd coating sand; amine compd coating sand; isocyanuric ring coating sand

IT      Molds (forms)  
              (cores, binders for, from epoxy resin and isocyanurate)

IT      25068-38-6  
RL: USES (Uses)  
              (binder, for mold cores)

IT      39438-86-3  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
              (casting of, core binders for)

IT      2904-41-8  
RL: USES (Uses)  
              (in epoxy binder, for mold cores)

L6      ANSWER 15 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN      1980:427211 CAPLUS  
DN      93:27211

ED      Entered STN: 12 May 1984

TI      Effectiveness of finishing lubricating agents in glass-fiber reinforced plastics based on binders of a different chemical nature

AU      Novikova, O. A.

CS      Inst. Khim. Vysokomol. Soedin., Kiev, USSR

SO      Kompozitsionnye Polimernye Materialy (1979-1996?) (1979), 4, 10-16  
CODEN: KPMAD8; ISSN: 0203-3275

DT      Journal

LA      Russian

CC      36-6 (Plastics Manufacture and Processing)

AB      The mech. degradation of adhesive joints of glass fiber-reinforced plastics containing lubricants depends on the binder-filler adhesion and binder shrinkage, and the chemical stability of the adhesive joints depends on the lubricant nature, with stability being highest for siloxane bond-forming lubricants. Glass fiber-reinforced PN-1 [26123-45-5] polyester and ED-20 [25068-38-6] epoxy resins were examined in the presence of lubricants containing triethoxyvinylsilane [78-08-0], ( $\gamma$ -aminopropyl)triethoxysilane [919-30-2], paraffin emulsions and an aqueous emulsion of oligomeric hydroxy-terminated polyisoprene containing isocyanates. The degradation of adhesive joints of glass fiber-reinforced plastics with a poor binder-filler adhesion was related to stresses in the boundary layer which were comparable to adhesive forces, and the role of the lubricant in this case was to increase the adhesion and decrease the stresses in the system, particularly for binders with high shrinkage. The role of lubricants in systems with a good binder-filler adhesion and a low binder shrinkage was to provide stable properties of the plastics.

ST      lubricant glass plastic adhesive; silane glass epoxy adhesion; polyester glass adhesion silane; isocyanurate lubricant glass plastic

IT      Lubricants  
              (glass fiber-reinforced plastics finished with, adhesion and mech. strength in relation to)

IT      Epoxy resins, properties

IT RL: USES (Uses)  
          (glass fiber-reinforced, adhesion and mech. strength of, lubricant effect on)

IT Polyesters, properties  
RL: PRP (Properties)  
          (glass fiber-reinforced, adhesion and mech. strength of, lubricant effect on)

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous  
RL: USES (Uses)  
          (lubricants containing, for glass fiber-reinforced plastics, adhesion and mech. strength in presence of)

IT Adhesion  
      (of glass-reinforced plastics, lubricant effect on)

IT Glass fibers, uses and miscellaneous  
RL: USES (Uses)  
      (plastics reinforced with, adhesion and mech. strength of, lubricant effect on)

IT 25068-38-6    26123-45-5

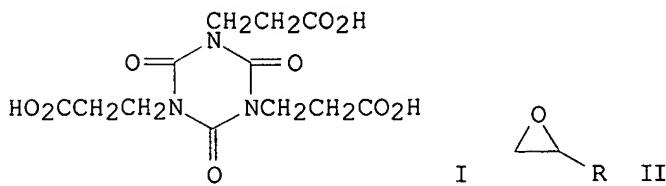
IT RL: USES (Uses)  
          (glass fiber-reinforced, adhesion and mech. strength of, lubricant effect on)

IT 78-08-0    839-88-3    919-30-2 2904-41-8

IT RL: USES (Uses)  
          (lubricants containing, for glass fiber-reinforced plastics, adhesion and mech. strength in presence of)

IT 9003-31-0D, hydroxy-terminated  
RL: USES (Uses)  
      (oligomeric, lubricants containing, for glass fiber-reinforced plastics, adhesion and mech. strength in presence of)

L6 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1979:38239 CAPLUS  
DN 90:38239  
ED Entered STN: 12 May 1984  
TI Kinetics and mechanism of reactions of alkene oxide groups in protophilic solvent  
AU Rokaszewski, Edward  
CS Inst. Chem. Technol., I. Lukasiewicz Polytech. Uni  
SO Polish Journal of Chemistry (1978), 52(7-8), 1487-  
CODEN: PJCHDQ; ISSN: 0137-5083  
DT Journal  
LA English  
CC 22-3 (Physical Organic Chemistry)  
GI



AB The reaction of I with II ( $R = H, Me, CH_2Cl$ ) to give the corresponding ring opened hydroxy esters, exhibited complex kinetics and autocatalysis. An approx. solution of the kinetic equation indicated that the epoxide ring was ring opened in a reaction with a nucleophile only after the O atom was H-bonded to add either the  $CO_2H$  group in I or the OH group in the hydroxy ester.

ST kinetics carboxyethylisocyanurate epoxide; ring cleavage oxirane mechanism; propylene oxide ring cleavage; epichlorohydrin cleavage carboxylic acid; hydroxy ester cleavage oxirane

IT Computer application  
(for ring cleavage of oxiranes with tris(β-carboxyethyl)isocyanuric acid)

IT Kinetics of esterification  
Kinetics of ring cleavage  
Kinetics of substitution reaction  
(of oxiranes with tris(β-carboxyethyl)isocyanuric acid)

IT Esterification  
Ring cleavage  
Substitution reaction, nucleophilic  
(of oxiranes with tris(β-carboxyethyl)isocyanuric acid, mechanism of)

IT Epoxides  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(ring cleavage of, with tris(β-carboxyethyl)isocyanuric acid, kinetics and mechanism of)

IT 2904-41-8  
RL: PRP (Properties)  
(ring cleavage of oxiranes with, kinetics and mechanism of)

IT 75-21-8, reactions 75-56-9, reactions 106-89-8, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(ring cleavage of, with tris(β-carboxyethyl)isocyanuric acid, kinetics and mechanism of)

L6 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1976:593478 CAPLUS  
DN 85:193478  
ED Entered STN: 12 May 1984  
TI Curing of epoxy resins by 1,3,5-tricarboxyethyl isocyanurate  
AU Sarzhevskaya, V. P.; Legkova, G. I.  
CS Inst. Khim. Vysokomol. Soedin., Kiev, USSR  
SO Khimicheskaya Tekhnologiya (Kiev) (1976), (3), 36-9  
CODEN: KHMTA6; ISSN: 0368-556X  
DT Journal  
LA Russian  
CC 36-6 (Plastics Manufacture and Processing)  
AB The optimum conditions for crosslinking of various epoxy resins with 1,3,5-tris(carboxyethyl) isocyanurate (I) [2904-41-8] were determined with and without addition of a crosslinking catalyst. No significant effect of guanidine acetate (II) [34771-62-5] or N-methylpyrrolidone [872-50-4] as catalysts was observed on crosslinking of epoxy resins with I, at 100 and 150°. A 3-hr crosslinking with I, at 100 and 150°, gave 89.5-92% crosslinked epoxy resins. No effect of the change in the epoxy-CO<sub>2</sub>H group ratio was observed on the degree of crosslinking of ED 5 [25068-38-6], ED 6 [9083-76-5], E 44 [42618-03-1] and E 49 [11098-13-8]. The structure of I-crosslinked epoxy resins was determined by ir spectroscopy. Thermogravimetric anal. of the resins showed an increase in thermal stability and resistance to H<sub>2</sub>O on crosslinking with I.  
ST crosslinking epoxy carboxyethyl isocyanurate  
IT Degradation  
(thermal, resistance to, of tris(carboxyethyl) isocyanurate-crosslinked epoxy resins)  
IT Crosslinking agents  
(tris(carboxyethyl) isocyanurate, for epoxy resins)  
IT 593-87-3 872-50-4  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, for crosslinking of epoxy resins with tris(carboxyethyl) isocyanurate)  
IT 25068-38-6 25068-38-6 25068-38-6 25068-38-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking of, with tris(carboxyethyl) isocyanurate, properties in relation to)  
IT 2904-41-8

RL: USES (Uses)  
(epoxy resins crosslinked with, optimum conditions for,  
properties in relation to)

L6 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1975:532892 CAPLUS

DN 83:132892

ED Entered STN: 12 May 1984

TI Prepreg sheets

IN Saida, Kenichi; Umino, Morimichi; Sakai, Masahiko

PA Hitachi, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC B29D; H01B

CC 37-3 (Plastics Fabrication and Uses)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 50059463	A2	19750522	JP 1973-107491	19730926
PRAI JP 1973-107491	A	19730926		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 50059463	IC	B29D; H01B
	IPCI	B29D0003-02; H01B0003-30
	IPCR	H01B0003-30 [I,A]; H01B0003-30 [I,C*]

GI For diagram(s), see printed CA Issue.

AB Prepreg. sheets contained 20-60% semicured varnish from reaction products from I [R = CO<sub>2</sub>H [2904-41-8], OH (II) [839-90-7]] and polybutadiene derivative ( $\geq$ 60% 1,2-linkage, mol. weight  $\geq$ 1000), containing 0.5-5 phr organic peroxide catalyst. For example, 100 parts carboxylated polybutadiene [9003-17-2] (Nisso PB C2000) was esterified with 8.8 parts II at 120-70° to acid value 4.7 and mixed with 163 parts toluene and 2 parts dicumyl peroxide to give varnish which was coated on 0.1 mm-thick mica [12001-26-2] sheet overlaid on 0.05 mm-thick glass cloth and heated at 120° for 10 min to give semicured prepreg. tape. The tape was wound on coil and cured at 120° for 3 hr and 150° for 5 hr to form insulation.

ST elec insulator mica; glass fiber elec insulator; polybutadienedicarboxylic ester elec insulator; polybutadienediol ester elec insulator; epoxidized polybutadiene elec insulator; hydroxyethyl isocyanurate elec insulator; carboxyethyl isocyanurate elec insulator

IT Glass fibers

Mica

RL: USES (Uses)

(elec. insulators containing)

IT Electric insulators and Dielectrics

(mica sheets impregnated with polybutadiene derivs.)

IT 1,3-Butadiene, homopolymer, carboxyl-terminated, esters with tris(hydroxyethyl) isocyanurate

RL: USES (Uses)

(elec. insulators containing)

IT 839-90-7D, 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2-hydroxyethyl)-, esters with polybutadienedicarboxylic acids or maleated polybutadiene 2904-41-8D, 1,3,5-Triazine-1,3,5(2H,4H,6H)-trifluoroacetic acid, 2,4,6-trioxo-, esters with polybutadienediol or epoxidized polybutadiene

RL: USES (Uses)

(elec. insulators containing)

L6 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1974:506537 CAPLUS

DN 81:106537

ED Entered STN: 12 May 1984  
 TI Hardening of an epoxy resin by carboxyethyl isocyanurates  
 AU Fedorenko, V. P.; Lysobyk, S. E.  
 CS Inst. Khim. Vysokomol. Soedin., Kiev, USSR  
 SO Sintez i Fiziko-Khimiya Polimerov (1974), 13, 41-3  
 CODEN: SFKPAO; ISSN: 0583-4317  
 DT Journal  
 LA Russian  
 CC 36-6 (Plastics Manufacture and Processing)  
 AB 1,3-Bis(carboxyethyl)isocyanurate (I) [2904-40-7] and 1,3,5-Tris(carboxyethyl)isocyanurate (II) [2904-41-8] were examined as crosslinking agents for ED-5 [25068-38-6] epoxy resins, and coatings prepared from these resins were elastic and resistant to alcs. and ethers and aqueous alkali solns. The adhesion of ED-5, hardened with II was 291.5 kg/cm<sup>2</sup> compared to 94.5 for ED-5 containing I. The adhesion of both coatings decreased on exposure to aggressive media, and after 21 week of exposure was 30-60 and 56-122 kg/cm<sup>2</sup> for I-and II-containing resins, resp. Coatings, after 7 weeks, indicated an increase in swelling on exposure to aggressive media, with no substantial change after that. The swelling of I-containing compns. was higher for II-containing, but the resistance to alkali solns. of both compns. was lower than to EtOH.  
 ST isocyanurate crosslinking epoxy; adhesion epoxy  
     crosslink isocyanurate; carboxyethyl isocyanurate crosslink epoxy  
     ; chem resistance crosslinked epoxy; mech property crosslinked  
     epoxy  
 IT Crosslinking agents  
     (carboxyethyl isocyanurates, for epoxy resins)  
 IT Epoxy resins  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (crosslinking of, with triazine derivs. adhesion in relation to)  
 IT Adhesion  
     (of epoxy resins, crosslinking effect on)  
 IT 2904-40-7 2904-41-8  
     RL: USES (Uses)  
         (crosslinking agents for epoxy resins, chemical resistance and adhesion in presence of)  
 IT 25068-38-6  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (crosslinking of, with triazine derivs. adhesion in relation to)  
  
 L6 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1967:465513 CAPLUS  
 DN 67:65513  
 ED Entered STN: 12 May 1984  
 TI Coating compositions containing polyesters of 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-trialkanoic acid and a polyhydric alcohol, with a polyepoxide and an aminoplast resin  
 IN Hill, Robert William; Galiano, Francis R.  
 PA Gulf Oil Corp.  
 SO U.S., 4 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 INCL 260835000  
 CC 42 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3329738		19670704	US 1964-395010	19640908

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3329738	INCL	260835000
	IPCR	C08G0063-00 [I,C*]; C08G0063-685 [I,A]; C08L0063-00 [I,A]; C08L0063-00 [I,C*]; C09D0163-00 [I,A];

C09D0163-00 [I,C\*]; C09D0167-00 [I,A]; C09D0167-00  
[I,C\*]

NCL 525/514.000; 428/077.000; 428/412.000; 428/413.000;  
428/480.000; 428/481.000; 428/482.000; 428/483.000;  
525/438.000

AB The subject coatings are flexible, have good adhesion to thermoplastic substrates, cure at low temps., and are good barriers to solvent vapors. Thus, 414 g. 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)tripropionic acid and 292 g. neopentyl glycol were heated 2 hrs. at 120°. Adipic acid (68.5 g.) was added and heating was continued for 6 hrs. at 120-5° and 3 hrs. at 145-50° to yield a polyester (I) with 50-5 acid number I was diluted with MeOEt to 80% solids, and 70 parts of this solution was added to 30 parts MeOEt solution (80% solids) of a com. epoxy resin (Epon 820). To this mixture, 20 parts 80%-solids solution of hexamethylolmelamine hexamethyl ether in MeOEt and 10 parts dioctyl cresyl phosphate plasticizer were added to give a coating composition (II). Triethylaminetetramine (1 part/20 parts epoxy resin) was added to II diluted to 30% resin solids. Polyethylene bottles were dipped into the catalyzed solution and the coating was cured for 15 min. at 190°F. to give a flexible film on the bottles which had good gloss, adhesion, and antistatic properties, and reduced losses of organic solvents contained in the bottles. Polyesters from 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-triacetic acid with 1,2-propanediol and pentaerythritol, other epoxides, e.g. tetrachloral-bisphenol A diglycidyl ether and glycerol triglycidyl ethers, and other aminoplasts, e.g. butylated melamine-HCHO resins and butylated dimethylolurea resins, are also blended into vehicles for coating polystyrene, acrylonitrile-butadiene-styrene copolymers, polyacrylonitrile, poly(vinyl chloride), cellulose acetate butyrate, and propionate, polycarbonate, and PhOH-HCHO resins.

ST COATINGS POLYESTER; AMINOPLASTS IN COATINGS; POLYESTER COATINGS; EPOXY RESINS IN COATINGS; TRIAZINE TRIALKANOATES IN COATINGS

IT Polyesters, preparation

RL: PREP (Preparation)  
(from 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-triacetic acid or -tripropionic acid)

IT Bottles

(from ethylene polymers, coatings on, from polyesters containing triazine groups)

IT Coating materials

(polyesters, from 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-triacetic acid or -tripropionic acid, modified with aminoplasts and epoxy resins, for ethylene polymers or related plastics)

IT 9002-88-4, uses and miscellaneous

RL: USES (Uses)  
(coatings on, containing polyesters with triazine groups)

IT 1968-52-1 2904-41-8

RL: USES (Uses)  
(polyesters with glycols or polyhydric alcs., for coatings)

L6 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1966:500248 CAPLUS

DN 65:100248

OREF 65:18789c-e

ED Entered STN: 22 Apr 2001

TI Air-drying polyester resins

IN Wooster, George S.; Berger, S. Edmund

PA Allied Chemical Corp.

SO 3 pp.

DT Patent

LA Unavailable

INCL 260861000

CC 48 (Plastics Technology)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 3275709 19660927 US 1962-190788 19620427

PRAI US

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

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US 3275709 INCL 260861000  
IPCR C08G0063-00 [I,C\*]; C08G0063-60 [I,A]  
NCL 528/304.000; 525/036.000; 528/288.000; 528/296.000;  
528/298.000; 528/301.000; 528/303.000

AB Unsatd. polyesters were prepared from either tetrahydrophthalic acid (I) or anhydride or endomethylenetetrahydrophthalic acid or anhydride, an  $\alpha,\beta$  unsatd. dicarboxylic acid, ethylene glycol, diethylene glycol, or a higher polyethylene glycol, and malic acid. Thus, 1 mole I, 1 mole fumaric acid, 224 moles diethylene glycol, and 0.254 mole malic acid was azeotropically refluxed in the presence of hydroquinone with sufficient xylene to maintain reflux at 190-5° to give a polyester resin. To a polyester-styrene coating composition, were added 1.5% methyl ethyl ketone peroxide and 0.21% Co as cobalt naphthenate. The composition was applied to a glass substrate to determine hardness. The mar resistance was determined on birchwood and Masonite panels, and flexibility and impact resistance were determined on unprimed steel standard panels and unprimed Al standard panels. Also used in the polyesters were trimellitic anhydride, tris(2-carboxyethyl) isocyanurate, and glycerol. The polyester-vinyl coatings air-dry quickly at room or higher temps. and have good hardness, mar resistance, flexibility, and impact strength

IT Amines  
(curing agents from poly-, in epoxy resin coatings)  
IT Coating(s)  
(from fumaric acid polyesters with glycols and tetrahydrophthalic acid)  
IT 1,2,4-Benzenetricarboxylic acid, 1,2-anhydride, polyesters  
Tetraethylene glycol, polyester, with bis(2-ethylhexyl)sebacate  
(for coatings)  
IT 25322-68-3, Glycols, polyethylene  
(esters, for coatings)  
IT 85-43-8, 4-Cyclohexene-1,2-dicarboxylic anhydride, polyester with fumaric acid and glycols 2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-  
tripropionic acid, 2,4,6-trioxo-, polyesters with diethylene glycol,  
fumaric acid and tetrahydrophthalic anhydride  
(for coatings)  
IT 107-21-1, Ethylene glycol 111-46-6, Diethylene glycol 112-27-6,  
Triethylene glycol 635-08-5, 1-Cyclohexene-1,2-dicarboxylic acid  
826-62-0, 5-Norbornene-2,3-dicarboxylic anhydride 3813-52-3,  
5-Norbornene-2,3-dicarboxylic acid 6915-15-7, Malic acid  
(polyesters, for coatings)  
IT 110-17-8, Fumaric acid  
(polyesters, with glycols and tetrahydrophthalic acid, for coatings)

=> D HIS

(FILE 'HOME' ENTERED AT 19:02:03 ON 20 SEP 2006)

FILE 'CAPLUS' ENTERED AT 19:02:15 ON 20 SEP 2006

E WO2004090640/PN

L1 1 S E3

FILE 'REGISTRY' ENTERED AT 19:03:45 ON 20 SEP 2006

L2 1 S 2904-41-8/RN  
SET NOTICE 1 DISPLAY  
SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 19:03:59 ON 20 SEP 2006

L3 72 S L2  
L4 7 S L3 AND GLYCIDYL  
L5 26 S L3 AND EPOX?

L6 21 S L5 NOT L4

=> S L3 NOT L4 NOT L6  
L7 44 L3 NOT L4 NOT L6

=> D ALL 1-44

L7 ANSWER 1 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2004:249635 CAPLUS  
DN 140:288457  
ED Entered STN: 26 Mar 2004  
TI Fluorine-containing maleimides, their manufacture and radiation-curable compositions, and low-refractive index polymers for optical materials  
IN Shikata, Toshiki; Shoji, Toshihiro; Ueda, Kiyoshi; Zhan, Xia; Yu, Jin; Xiu, Yan-xia  
PA Dainippon Ink and Chemicals, Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07D207-448  
ICS C08F022-40  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 27, 35, 73  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004091479	A2	20040325	JP 2003-193534	20030708
PRAI JP 2002-199856	A	20020709		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004091479	ICM C07D207-448 ICS C08F022-40 IPCI C07D0207-448 [ICM, 7]; C07D0207-00 [ICM, 7,C*]; C08F0022-40 [ICS, 7]; C08F0022-00 [ICS, 7,C*] IPCR C07D0207-00 [I,C*]; C07D0207-448 [I,A]; C08F0022-00 [I,C*]; C08F0022-40 [I,A] FTERM 4C069/AD08; 4C069/BA01; 4C069/BB60; 4C069/CC14; 4J100/AM55P; 4J100/BA02P; 4J100/BA15P; 4J100/BB12P; 4J100/BC04P; 4J100/BC75P; 4J100/CA04; 4J100/JA37	

OS MARPAT 140:288457  
AB The maleimides are  $Z(O_2CXP)_n$  [I; P = N-maleimido; X = (F-substituted) C1-10 alkylene, (F-substituted) polymethylene; Z = n-valent C1-70 aliphatic fluorohydrocarbon group [substituted with O, CO, O<sub>2</sub>C, etc., without vicinal O atoms], Z<sub>2</sub>Z<sub>3</sub>m; Z<sub>2</sub> = 2-8-valent isocyanuric ring, benzene, naphthalene, etc.; Z<sub>3</sub> = bivalent C1-70 aliphatic fluorohydrocarbon group [substituted with O, CO, O<sub>2</sub>C, etc., without vicinal O atoms]; m = valent same as that of Z<sub>2</sub>; n = 2-8]. Thus, maleimidoacetic chloride was esterified with A 7412 (2,2,3,3,4,4,5,5-octafluorohexane-1,6-diol) at 100° while dropping pyridine to give I [Z = CH<sub>2</sub>(CF<sub>2</sub>)<sub>4</sub>CH<sub>2</sub>, X = CH<sub>2</sub>, P = N-maleimido, n = 2]. A composition containing I and Me methacrylate was applied on a glass plate and cured by UV irradiation to give an odorless layer showing refractive index 1.47 and good weather resistance.  
ST fluorine maleimide radiation curable optical material; optical fluorohexanediyl maleimidoacetate methyl methacrylate copolymer; maleimidoacetyl chloride fluorohexanediol esterification pyridine; radiation curable fluoropolymer polyether maleimidoacetate optical  
IT Fluoropolymers, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic polyethers; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)  
IT Polyethers, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic, fluorine-containing; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT Polyethers, preparation  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(fluorine-containing, maleimidoacetates; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT Optical materials  
(manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT Polyisocyanurates  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyether-, fluorine-containing, acrylic-; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT Fluoropolymers, preparation  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(polyether-, maleimidoacetates; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT Fluoropolymers, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyether-polyisocyanurate-, acrylic-; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT Polyethers, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyisocyanurate-, fluorine-containing, acrylic-; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT 355-74-8, 2,2,3,3,4,4,5,5-Octafluorohexane-1,6-diol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(A 7412; manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT 17686-36-1P 25021-08-3P, Maleimidoacetic acid 33919-40-3P  
675124-30-8P 676120-49-3P 676124-22-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT 675124-31-9P 676120-50-6P 676124-26-8P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT 56-40-6, Glycine, reactions 108-31-6, Maleic anhydride, reactions 2904-41-8, 1,3,5-Tris(2-carboxyethyl)isocyanurate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

IT 110-86-1, Pyridine, reactions  
RL: RGT (Reagent); RACT (Reactant or reagent)

(manufacture of F-containing maleimides for radiation-curable compns. for low-refractive index polymer optical materials)

L7 ANSWER 2 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:77134 CAPLUS

DN 140:137552

ED Entered STN: 30 Jan 2004

TI CMP polishing process-controlling solutions and process thereof

IN Masuda, Katsuyuki; Ono, Hiroshi; Fukazawa, Masato; Kurata, Yasushi

PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-304

ICS B24B037-00; C09K003-14

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 27, 28

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004031446	A2	20040129	JP 2002-181998	20020621
PRAI JP 2002-181998			20020621	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004031446	ICM	H01L021-304
	ICS	B24B037-00; C09K003-14
	IPCI	H01L0021-304 [ICM, 7]; H01L0021-02 [ICM, 7, C*]; B24B0037-00 [ICS, 7]; C09K0003-14 [ICS, 7]
	IPCR	B24B0037-00 [I, A]; B24B0037-00 [I, C*]; C09K0003-14 [I, A]; C09K0003-14 [I, C*]; H01L0021-02 [I, C*]; H01L0021-304 [I, A]
	FTERM	3C058/AA07; 3C058/AC04; 3C058/CB01; 3C058/DA17

AB The title CMP solution containing S- and/or N-compound-containing polishing agent to

decrease of polishing friction, to decrease of etching rate, to increase of polishing rate, and/or to improve surface-leveling. The polishing agent have distribution coefficient in 0-2 may be imidazoles, pyrazoles, thiazoles, triazoles, or guanidines. The process makes possible controlling of phys. properties of polishing layer especially laminated layers having a 1st layer such as Cu, Cu-alloy, Cu oxide, or Cu alloy oxide and a 2nd layer such as Ta, T nitride, Ta alloy, other Ta compds., Ti, Ti nitride, Ti alloy, other Ti compds., W, W nitride, W alloy, or other W compds. The CMP solution provides semiconductor devices with reliable buried metal circuits.

ST imidazole CMP control polishing friction etching leveling buried circuit;  
pyrazole CMP control polishing friction etching leveling buried circuit;  
thiazole CMP control polishing friction etching leveling buried circuit;  
triazole CMP control polishing friction etching leveling buried circuit;  
guanidine CMP control polishing friction etching leveling buried circuit

IT Polishing materials  
(S- and/or N-compound; CMP polishing process-controlling solns. and process thereof)

IT Electric circuits  
(buried, fabrication by polishing; CMP polishing process-controlling solns. and process thereof)

IT Semiconductor device fabrication  
(by CMP polishing; CMP polishing process-controlling solns. and process thereof)

IT Polishing  
(chemical-mech.; CMP polishing process-controlling solns. and process thereof)

IT Level  
(leveling control in polishing; CMP polishing process-controlling

solns. and process thereof)  
IT Friction  
(polishing, control of; CMP polishing process-controlling solns. and process thereof)  
IT Etching  
(rate control, in polishing; CMP polishing process-controlling solns. and process thereof)  
IT 1344-28-1, Alumina, processes 7631-86-9, Silica, processes  
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)  
(colloidal abrasive; CMP polishing process-controlling solns. and process thereof)  
IT 108-78-1, Melamine, properties  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)  
(highly added, polishing agent; CMP polishing process-controlling solns. and process thereof)  
IT 57-13-6, Urea, properties 59-52-9, Dithioglycerol 61-82-5,  
3-Amino-1,2,4-triazole 67-51-6, 3,5-Dimethylpyrazole 86-93-1,  
1-Phenyl-5-mercaptotetrazole 93-69-6, 1-(o-Tolyl)biguanide 96-50-4,  
2-Aminothiazole 102-06-7, 1,3-Diphenylguanidine 108-26-9 113-00-8,  
Guanidine 136-85-6, 5-Methylbenzotriazole 273-34-7,  
1,2,3-Triazolo[4,5-b]pyridine 274-98-6, 1,2,4-Triazolo[4,3-a]pyrimidine  
275-02-5, 1,2,4-Triazolo[1,5-a]pyrimidine 280-57-9, 1,4-  
Diazabicyclo[2,2,2]octane 288-32-4, Imidazole, properties 288-88-0,  
1H-1,2,4-Triazole 541-58-2, 2,4-Dimethylthiazole 583-39-1 584-13-4,  
4-Amino-1,2,4-triazole 693-98-1, 2-Methylimidazole 822-36-6,  
4-Methylimidazole 930-62-1, 2,4-Dimethylimidazole 931-36-2,  
2-Ethyl-4-methylimidazole 1072-62-4, 2-Ethylimidazole 1603-91-4,  
2-Amino-4-methylthiazole 1779-81-3, 2-Aminothiazoline 2592-95-2,  
1-Hydroxybenzotriazole 2904-41-8, Tris(carboxyethyl)  
isocyanurate 3581-91-7, 4,5-Dimethylthiazole 6264-40-0 6338-45-0  
7720-39-0, 2-Aminimidazole 30346-87-3, Methylimidazole 31230-17-8;  
3-Amino-5-methylpyrazole 36947-68-9, 2-Isopropylimidazole 50790-93-7,  
2-Butylimidazole 50995-95-4, 2-Propylimidazole 73359-86-1  
145092-00-8, 3-Amino-5-hydroxypyrazole  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)  
(polishing agent; CMP polishing process-controlling solns. and process thereof)  
IT 7440-50-8, Copper, processes  
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)  
(substrate, for polishing; CMP polishing process-controlling solns. and process thereof)

L7 ANSWER 3 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2004:73872 CAPLUS  
DN 140:95348  
ED Entered STN: 29 Jan 2004  
TI Polishing liquid for polishing of semiconductor devices with improved reliability  
IN Masuda, Katsuyuki; Ono, Hiroshi; Kurata, Yasushi  
PA Hitachi Chemical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM H01L021-304  
ICS B24B037-00; B24B057-02; C09K003-14  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 56, 57, 76  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 2004031442  
PRAI JP 2002-181989

A2 20040129  
20020621

JP 2002-181989

20020621

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

JP 2004031442	ICM	H01L021-304
	ICS	B24B037-00; B24B057-02; C09K003-14
	IPCI	H01L0021-304 [ICM, 7]; H01L0021-02 [ICM, 7,C*]; B24B0037-00 [ICS, 7]; B24B0057-02 [ICS, 7]; B24B0057-00 [ICS, 7,C*]; C09K0003-14 [ICS, 7]
	IPCR	B24B0037-00 [I,A]; B24B0037-00 [I,C*]; B24B0057-00 [I,C*]; B24B0057-02 [I,A]; C09K0003-14 [I,A]; C09K0003-14 [I,C*]; H01L0021-02 [I,C*]; H01L0021-304 [I,A]
	FTERM	3C047/FF08; 3C047/GG15; 3C058/AA07; 3C058/AC04; 3C058/CB01; 3C058/CB03; 3C058/DA17

AB The polishing liquid contains: an oxidizing agent, metal oxide solvent, an aqueous compound for decreasing polishing friction, and water, where the aqueous

compound has a distribution coefficient ( $\text{LogP}$ )  $\geq 2$  or  $\leq 0$ .

Preferably, the aqueous compound is selected from: urea, tris(2-carboxyethyl)isocyanurate, 4-amino-1,2,4-triazole, 2-aminoimidazole, 1,2,4-triazole, imidazole, dithioglycerol, 1,4-diazabicyclo[2.2.2]octane, 3-amino-1,2,4-triazole, 2,4-dimethylthiazole, 1-phenyl-5-mercaptotetrazole, and/or 1,3-diphenylguanidine. The oxidizing agent is selected from  $\text{H}_2\text{O}_2$ ,  $\text{HNO}_3$ , K periodate, hypochlorous acid, persulfate and/or ozone water.

ST polishing liq semiconductor device aq compd reliability

IT Polishing

(chemical-mech.; polishing liquid containing aqueous compound with desired distribution coefficient for polishing of semiconductor devices with improved reliability)

IT Polishing materials

Semiconductor devices

(polishing liquid containing aqueous compound with desired distribution coefficient for

polishing of semiconductor devices with improved reliability)

IT Copper alloy, base

Tantalum alloy, base

Titanium alloy, base

Tungsten alloy, base

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)

(membrane, polishing of; polishing liquid containing aqueous compound with desired

distribution coefficient for polishing of semiconductor devices with improved reliability)

IT 1306-38-3, Ceria, uses 1310-53-8, Germania, uses 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses

RL: NUU (Other use, unclassified); USES (Uses)

(abrasives; polishing liquid containing aqueous compound with desired distribution

coefficient for polishing of semiconductor devices with improved reliability)

IT 57-13-6, Urea, uses 59-52-9, Dithioglycerol 61-82-5, 3-Amino-1,2,4-triazole 86-93-1, 1-Phenyl-5-mercaptotetrazole 102-06-7, 1,3-Diphenylguanidine 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 288-32-4, Imidazole, uses 288-88-0, 1H-1,2,4-Triazole 541-58-2, 2,4-Dimethylthiazole 584-13-4, 4-Amino-1,2,4-triazole 2904-41-8, Tris(2-carboxyethyl)isocyanurate 7720-39-0, 2-Aminoimidazole

RL: NUU (Other use, unclassified); USES (Uses)

(aqueous compound containing; polishing liquid containing aqueous compound with desired

distribution coefficient for polishing of semiconductor devices with improved reliability)

IT 1317-38-0, Copper oxide, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-50-8, Copper, uses 11116-16-8, Titanium nitride 12033-62-4, Tantalum nitride 37359-53-8, Tungsten nitride  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (membrane, polishing of; polishing liquid containing aqueous compound with desired

distribution coefficient for polishing of semiconductor devices with improved reliability)

IT 95-14-7, 1H-Benzotriazole  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (metal corrosion-proofing agent; polishing liquid containing aqueous compound with

desired distribution coefficient for polishing of semiconductor devices with improved reliability)

IT 7697-37-2, Nitric acid, uses 7722-84-1; Hydrogen peroxide, uses 7790-21-8, Potassium periodate 7790-92-3, Hypochlorous acid 15092-81-6, Peroxydisulfate ((SO<sub>3</sub>)<sub>2</sub>O<sub>2</sub>-)  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (oxidizing agent; polishing liquid containing aqueous compound with desired distribution coefficient for polishing of semiconductor devices with improved reliability)

IT 10028-15-6, Ozone, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (ozone water, oxidizing agent; polishing liquid containing aqueous compound with

desired distribution coefficient for polishing of semiconductor devices with improved reliability)

L7 ANSWER 4 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2002:182189 CAPLUS  
 DN 136:218064  
 ED Entered STN: 14 Mar 2002  
 TI Resin composition reclaimed from compact disk waste  
 IN Tsai, Shih-Jung; Kao, Hsin-Ching; Lui, Wen-Ling  
 PA Industrial Technology Research Institute, Taiwan  
 SO U.S., 5 pp.  
 CODEN: USXXAM

DT Patent  
 LA English  
 IC ICM C08G064-42  
 INCL 525461000  
 CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6355739	B1	20020312	US 2000-541602	20000403
	TW 503247	B	20020921	TW 1999-88123115	19991228
PRAI	TW 1999-88123115	A	19991228		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US	6355739	ICM	C08G064-42
		INCL	525461000
		IPCI	C08G0064-42 [ICM,7]; C08G0064-00 [ICM,7,C*]
		IPCR	C08L0069-00 [I,A]; C08L0069-00 [I,C*]
		NCL	525/461.000; 521/040.000; 524/401.000; 525/462.000
		ECLA	C08L069/00+B4K4; C08L069/00+B5
TW	503247	IPCI	C08J0011-00 [ICM,7]
		IPCR	C08L0069-00 [I,A]; C08L0069-00 [I,C*]

AB The present invention discloses a resin composition reclaimed from compact disk

waste having improved mech. characteristics. The resin composition in accordance with the present invention comprises (a) compact disk waste comprising polycarbonate (PC) as a primary component; and (b) a coupling agent containing two or more reactive functional groups. Optionally, the resin composition of the present invention may further comprise (c) an impact-resistant thermoplastic resin, engineering plastic grade PC or waste thereof, or recycled bottle grade PC.

ST polycarbonate compact disk waste recycling coupling agent

IT Acrylic rubber

Ethylene-propylene rubber  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(acrylonitrile- and styrene-grafted, impact-resistant; resin composition reclaimed from compact disk waste)

IT Styrene-butadiene rubber, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(block, triblock, impact-resistant; resin composition reclaimed from compact disk waste)

IT Chlorinated polyethylene rubber  
Polyesters, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(impact-resistant; resin composition reclaimed from compact disk waste)

IT Coupling agents  
Impact-resistant materials  
Optical ROM disks  
Recycling of plastics and rubbers  
(resin composition reclaimed from compact disk waste)

IT Polycarbonates, uses  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PROC (Process); USES (Uses)  
(resin composition reclaimed from compact disk waste)

IT Plastics, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(thermoplastics, impact-resistant; resin composition reclaimed from compact disk waste)

IT 9002-88-4D, chlorinated  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(chlorinated polyethylene rubber, impact-resistant; resin composition reclaimed from compact disk waste)

IT 89-32-7, Pyromellitic dianhydride 91-97-4 101-68-8,  
Diphenylmethane-4,4'-diisocyanate 104-49-4, p-Phenylene diisocyanate 115-77-5D, polyglycidyl ether 139-25-3, 3,3'-Dimethyl-diphenylmethane 4,4'-diisocyanate 552-30-7, Trimellitic anhydride 822-06-0, Hexamethylene diisocyanate 1107-00-2, 2,2-Bis(3,4-dicarboxyphenyl) hexafluoropropane dianhydride 2420-87-3, 3,3', 4,4'-Biphenyl tetracarboxylic dianhydride 2421-28-5, 3,3', 4,4'-Benzophenone tetracarboxylic dianhydride 2904-41-8, Tris(2-carboxyethyl) isocyanurate 3173-72-6, 1,5-Naphthalene diisocyanate 7195-44-0, Diglycidyl terephthalate 7195-45-1, Diglycidyl phthalate 9016-87-9, Polymethylenephylene isocyanate 13236-02-7, Glycerol polyglycidyl ether 25619-70-9, Dianisidine diisocyanate 25854-16-4 26471-62-5, Toluene diisocyanate 106070-55-7 110011-42-2 139291-31-9  
RL: MOA (Modifier or additive use); USES (Uses)  
(coupling agent; resin composition reclaimed from compact disk waste)

IT 9003-56-9, Acrylonitrile-butadiene-styrene copolymer 24968-12-5, Polybutylene terephthalate 25038-59-9, Polyethylene terephthalate, uses 26062-94-2, Polybutylene terephthalate  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(impact-resistant; resin composition reclaimed from compact disk waste)

IT 106107-54-4 694491-73-1

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(styrene-butadiene rubber, block, triblock, impact-resistant; resin composition reclaimed from compact disk waste)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

(1) Pfaendner; US 5807932 A 1998 CAPLUS

L7 ANSWER 5 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2001:885608 CAPLUS  
DN 136:21970  
ED Entered STN: 07 Dec 2001  
TI Nonaqueous electrolyte battery with excellent high-temperature storage characteristics  
IN Ueda, Atsushi; Imamoto, Kazuya; Yoshizawa, Hiroshi  
PA Matsushita Electric Industrial Co., Ltd., Japan  
SO Eur. Pat. Appl., 11 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM HO1M006-16  
ICS HO1M010-40  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

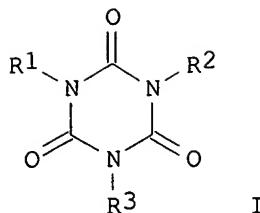
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1160899	A2	20011205	EP 2001-113282	20010531
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001345119	A2	20011214	JP 2000-162008	20000531
	US 2002009652	A1	20020124	US 2001-863463	20010524
	US 6841305	B2	20050111		
	CN 1326239	A	20011212	CN 2001-122179	20010531
PRAI	JP 2000-162008	A	20000531		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP	1160899	ICM	HO1M006-16
		ICS	HO1M010-40
		IPCI	HO1M0006-16 [ICM,6]; HO1M0010-40 [ICS,6]; HO1M0010-36 [ICS,6,C*]
		IPCR	HO1M0006-16 [I,A]; HO1M0006-16 [I,C*]; HO1M0010-36 [I,C*]; HO1M0010-40 [I,A]
		ECLA	HO1M006/16E5; HO1M010/40E5
JP	2001345119	IPCI	HO1M0010-40 [ICM,7]; HO1M0010-36 [ICM,7,C*]
		IPCR	HO1M0006-16 [I,A]; HO1M0006-16 [I,C*]; HO1M0010-36 [I,C*]; HO1M0010-40 [I,A]
US	2002009652	IPCI	HO1M0010-40 [ICM,7]; HO1M0010-36 [ICM,7,C*]
		IPCR	HO1M0006-16 [I,A]; HO1M0006-16 [I,C*]; HO1M0010-36 [I,C*]; HO1M0010-40 [I,A]
		NCL	429/336.000; 429/337.000; 429/338.000; 429/339.000; 429/341.000
		ECLA	HO1M006/16E5; HO1M010/40E5
CN	1326239	IPCI	HO1M0010-40; HO1M0010-36 [C*]; HO1B0001-12
		IPCR	HO1M0006-16 [I,A]; HO1M0006-16 [I,C*]; HO1M0010-36 [I,C*]; HO1M0010-40 [I,A]
		ECLA	HO1M006/16E5; HO1M010/40E5

OS MARPAT 136:21970  
GI



- AB A nonaq. electrolyte battery excellent in high-temperature storage characteristics is provided by adding to the nonaq. electrolyte a compound represented by (I) in which R1, R2 and R3 independently represent a hydrogen atom, a halogen atom or a straight chain or branched chain alkyl group.
- ST nonaq electrolyte battery excellent high temp storage; isocyanurate additive nonaq electrolyte battery
- IT Carboxylic acids, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (esters, cyclic; nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- IT Battery electrolytes  
 Primary batteries  
 (nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- IT Carbonaceous materials (technological products)  
 RL: DEV (Device component use); USES (Uses)  
 (nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- IT 7782-42-5, Graphite, uses  
 RL: DEV (Device component use); USES (Uses)  
 (mesophase; nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses 9003-07-0, Polypropylene 12190-79-3, Cobalt lithium oxide colio2 21324-40-3, Lithium hexafluorophosphate  
 RL: DEV (Device component use); USES (Uses)  
 (nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- IT 96-48-0,  $\gamma$ -Butyrolactone 2904-41-8, Tris(2-carboxyethyl)isocyanurate 13285-39-7  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- IT 463-79-6D, Carbonic acid, esters 512-56-1, Trimethyl phosphate 7664-38-2D, Phosphoric acid, esters  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (nonaq. electrolyte battery with excellent high-temperature storage characteristics)
- L7 ANSWER 6 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2001:145044 CAPLUS  
 DN 134:195752  
 ED Entered STN: 28 Feb 2001  
 TI Nonaqueous electrolyte solution and secondary lithium battery using it  
 IN Hinohara, Akio  
 PA Mitsui Chemicals Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM H01M010-40

ICS H01M004-58  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001057234	A2	20010227	JP 1999-232211	19990819
PRAI JP 1999-232211		19990819		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001057234	ICM	H01M010-40
	ICS	H01M004-58
	IPCI	H01M0010-40 [ICM,7]; H01M0004-58 [ICS,7]
	IPCR	H01M0004-58 [I,A]; H01M0004-58 [I,C*]; H01M0010-36 [I,C*]; H01M0010-40 [I,A]

AB The solution containing nonaq. solvents and Li salts shows leak current value 0.25  $\mu$ A/mg-graphite observed by Li-graphite battery in nonaq. electrolyte solution (3 g per 1 g graphite electrode) at 60° and 1 V for 25 h. The solution may contain cyclic and/or linear carbonate esters and a compound which become slightly soluble at electrolysis. The battery contains a Li-doping/dedoping carbon anode, a cathode, and the above solution. The battery shows long cycle life and storage stability at high temperature

ST nonaq electrolyte soln leak current lithium battery

IT Secondary batteries  
 (lithium; nonaq. electrolyte solution for secondary lithium battery with long cycle life)

IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate  
 RL: DEV (Device component use); USES (Uses)  
 (nonaq. electrolyte solution for secondary lithium battery with long cycle life)

IT 77-77-0, Divinyl sulfone 85-44-9, Phthalic anhydride 108-31-6, Maleic anhydride, uses 2904-41-8, Tris(carboxyethyl) isocyanurate 4427-96-7, Vinylethylene carbonate 15896-04-5 40220-08-4, Tris(acryloyloxyethyl) isocyanurate 327181-13-5  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (nonaq. electrolyte solution for secondary lithium battery with long cycle life)

L7 ANSWER 7 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:880767 CAPLUS  
 DN 134:59057  
 ED Entered STN: 15 Dec 2000  
 TI Nonaqueous electrolyte solutions and secondary batteries using the electrolyte solutions  
 IN Hinohara, Akio; Toriida, Masahiro  
 PA Mitsui Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF .

DT Patent  
 LA Japanese  
 IC ICM H01M010-40  
 ICS H01M010-40; H01M004-02; H01M004-58  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 FAN.CNT 1

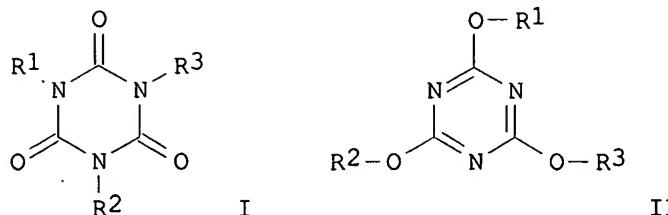
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000348765	A2	20001215	JP 1999-257436	19990910
PRAI JP 1999-95883	A	19990402		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000348765	ICM	H01M010-40
	ICS	H01M010-40; H01M004-02; H01M004-58
	IPCI	H01M0010-40 [ICM,7]; H01M0010-40 [ICS,7]; H01M0004-02

IPCR [ICS,7]; H01M0004-58 [ICS,7]  
H01M0004-02 [I,A]; H01M0004-02 [I,C\*]; H01M0004-58  
[I,A]; H01M0004-58 [I,C\*]; H01M0010-36 [I,C\*];  
H01M0010-40 [I,A]

OS MARPAT 134:59057  
GI



- AB The electrolyte solns. contain an electrolyte and a nonaq. solvent containing isocyanuric acid derivs. I (R1-3 = C1-10 alkyl or aryl groups or C1-20 organic groups containing carbonyl group, oxy group, and/or double bonds) or
- II. The solvents may also contain linear and cyclic carbonate esters. The batteries are secondary Li batteries.
- ST secondary lithium battery electrolyte solvent isocyanuric acid deriv
- IT Battery electrolytes  
(nonaq. electrolyte solns. containing isocyanuric acid derivs. for secondary lithium batteries)
- IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 21324-40-3, Lithium hexafluorophosphate  
RL: DEV (Device component use); USES (Uses)  
(nonaq. electrolyte solns. containing isocyanuric acid derivs. for secondary lithium batteries)
- IT 2769-04-2 2904-41-8 13285-39-7 40220-08-4 313353-00-3  
RL: MOA (Modifier or additive use); USES (Uses)  
(nonaq. electrolyte solns. containing isocyanuric acid derivs. for secondary lithium batteries)

- L7 ANSWER 8 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2000:442478 CAPLUS  
DN 133:163844  
ED Entered STN: 02 Jul 2000  
TI Enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units  
AU Sugimoto, H.; Yamane, Y.; Inoue, S.  
CS Shinjuku-ku, Kagurazaka, Faculty of Engineering, Department of Industrial Chemistry, Science University of Tokyo, Tokyo, 162-8601, Japan  
SO Tetrahedron: Asymmetry (2000), 11(10), 2067-2075  
CODEN: TASYE3; ISSN: 0957-4166  
PB Elsevier Science Ltd.  
DT Journal  
LA English  
CC 22-10 (Physical Organic Chemistry)  
Section cross-reference(s): 34  
AB Chiral discrimination of enantiomers by the title optically active isocyanurate 3 was demonstrated by  $^1\text{H}$  NMR. Compound 3 was considered to be more flexible and mobile in solution than the linear amino acid oligomer 6 as shown by  $^1\text{H}$  NMR, and thus considered to be unfavorable for precise mol. recognition. However, in the spectrum of 3 and racemic binaphthol 4 at the molar ratio of 2:3 in  $\text{CDCl}_3$ , the signal assignable to the OH groups of binaphthol shifted downfield from that of binaphthol alone and split in two singlets, indicating that 3 distinguished the enantiomers of 4. In sharp contrast to 3, methoxycarbonyl-L-leucine Me ester, a model compound

composed of one of the amino acid units 3, did not discriminate the enantiomers of 4, indicating that it is necessary for three L-amino acid units to be organized on the isocyanurate framework in order to recognize the enantiomers of 4.

ST NMR shift reagent isocyanurate amino acid binaphthol chiral recognition  
 IT Chiral recognition  
 Shift reagents  
 (enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

IT Amino acids, properties  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

IT Formation constant  
 (of diastereomeric complexes; enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

IT 2666-93-5, L-Leucine methyl ester 4070-48-8, L-Valine methyl ester 10065-72-2, L-Alanine methyl ester 16450-41-2, L-Glutamic acid diethyl ester 24498-31-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amide coupling; enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

IT 2904-41-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amide coupling; enantiomeric discrimination of binaphthol by novel optically active isocyanurates having peripheral amino acid units)

IT 602-09-5, [1,1'-Binaphthalene]-2,2'-diol 18531-94-7 18531-99-2, (S)-BINOL  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
 (enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

IT 288160-61-2P 288160-62-3P 288160-63-4P 288160-64-5P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

IT 288160-65-6P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (inactive as shift reagent; enantiomeric discrimination by novel optically active isocyanurates having peripheral amino acid units)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Breslow, R; J Am Chem Soc 1980, V102, P421 CAPLUS
- (2) Cram, D; Acc Chem Res 1978, V11, P8 CAPLUS
- (3) Cram, D; Angew Chem Int Ed Engl 1988, V27, P1009
- (4) Izumiya, N; Peptido Gousei no Kiso to Jikken Maruzen 1986, P100
- (5) Izumiya, N; Peptido Gousei no Kiso to Jikken Maruzen 1986, P114
- (6) Jursic, B; J Org Chem 1992, V57, P7172 CAPLUS
- (7) Kaiser, E; Science 1984, V223, P249 CAPLUS
- (8) Lehn, J; Angew Chem Int Ed Engl 1988, V27, P89
- (9) Lehn, J; Pure Appl Chem 1978, V50, P871 CAPLUS
- (10) Lehn, J; Supramolecular Chemistry - Concepts and Perspectives 1995
- (11) Morii, H; Biopolymers 1994, V34, P481 CAPLUS
- (12) Morii, H; Proteins: Struct, Funct, Genet 1991, V11, P133 CAPLUS
- (13) Nishino, N; Rep Asahi Glass Found Ind Technol 1986, V48, P149 CAPLUS
- (14) Nowick, J; J Org Chem 1992, V57, P7364 CAPLUS
- (15) Pirkle, W; Top Stereochem 1982, V13, P263 CAPLUS
- (16) Rosini, C; J Org Chem 1988, V53, P4579 CAPLUS
- (17) Sasaki, T; J Am Chem Soc 1989, V111, P380 CAPLUS
- (18) Tabushi, I; J Am Chem Soc 1985, V107, P5546.
- (19) Vogte, F; Supramolecular Chemistry 1989

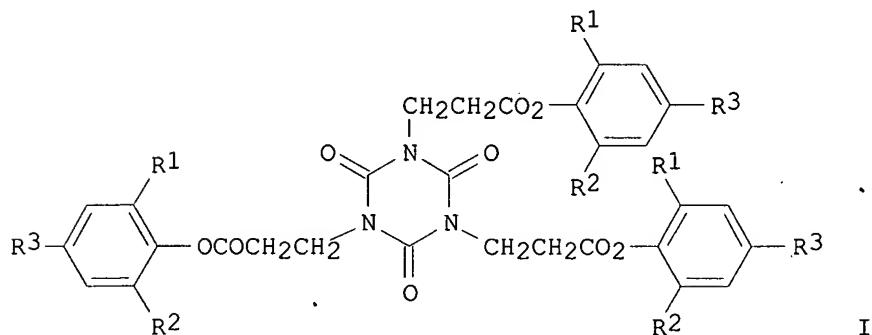
L7 ANSWER 9 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1999:650386 CAPLUS  
 DN 131:287276  
 ED Entered STN: 13 Oct 1999  
 TI New isocyanuric acid derivative  
 IN Sakamoto, Yukihiro; Iwasaki, Yoshinari; Nakaki, Junji  
 PA Shikoku Chemicals Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07D251-34  
 ICS C08K005-3477; C08L027-06  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11279162	A2	19991012	JP 1998-96751	19980324
	JP 3281600	B2	20020513		
PRAI	JP 1998-96751			19980324	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 11279162	ICM	C07D251-34
	ICS	C08K005-3477; C08L027-06
	IPCI	C07D0251-34 [ICM,6]; C08K0005-3477 [ICS,6]; C08L0027-06 [ICS,6]
	IPCR	C07D0251-00 [I,C*]; C07D0251-34 [I,A]; C08K0005-00 [I,C*]; C08K0005-3477 [I,A]; C08L0027-00 [I,C*]; C08L0027-06 [I,A]

OS MARPAT 131:287276  
 GI



AB Phenol ester I (when R1, R2 = H, R3 = H, Me, Et, benzyl, NO<sub>2</sub>, halo; when R1, R2 = Me, R3 = H), title acid derivs., were prepared either by chlorination of isocyanurates or reaction with phenol derivs. in the presence of pyridine, triethylamine, or NaOH as heat stabilizers for PVC.  
 ST isocyanuric acid deriv heat stabilizer PVC prep; phenol ester heat stabilizer PVC prepn chlorination esterification  
 IT Chlorination  
 Esterification  
 (in preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)  
 IT Heat stabilizers  
 (preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)  
 IT 245726-67-4P  
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(heat stabilizers; preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)

IT 110-86-1, Pyridine, uses 121-44-8, Triethylamine, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)

IT 245726-68-5P 245726-69-6P 245726-70-9P 245726-71-0P 245726-72-1P  
 245726-73-2P  
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)

IT 9002-86-2, PVC  
 RL: MSC (Miscellaneous)  
 (preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)

IT 68-12-2, Dimethylformamide, reactions 92-69-3, [1,1'-Biphenyl]-4-ol  
 100-02-7, reactions 101-53-1 106-44-5, reactions 106-48-9  
 108-95-2, Phenol, reactions 576-26-1 2904-41-8 7719-09-7,  
 Thionyl chloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation isocyanuric acid phenol derivs. as heat stabilizers for PVC)

L7 ANSWER 10 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:239255 CAPLUS

DN 128:258520

ED Entered STN: 27 Apr 1998

TI Carboxy functional crosslinker compositions and curable compositions containing the same, and coating and coated products therewith, with low gloss and good durability

IN Ramesh, Subban

PA Cytec Technology Corp., USA

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08G059-42

ICS C09D133-06; C09D163-00

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9815587	A1	19980416	WO 1997-US16126	19970918
	W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, .CZ, EE, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2267791	AA	19980416	CA 1997-2267791	19970918
	AU 9743425	A1	19980505	AU 1997-43425	19970918
	EP 931104	A1	19990728	EP 1997-941537	19970918
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	BR 9712216	A	19990831	BR 1997-12216	19970918
	CN 1232477	A	19991020	CN 1997-198567	19970918
	JP 2001502003	T2	20010213	JP 1998-517526	19970918
	US 5925285	A	19990720	US 1997-944659	19971006
	US 6130297	A	20001010	US 1998-222098	19981229
	NO 9901636	A	19990602	NO 1999-1636	19990407
	KR 2000048959	A	20000725	KR 1999-703007	19990407
PRAI	US 1996-28262P	P	19961008		
	WO 1997-US16126	W	19970918		
	US 1997-944659	A3	19971006		

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 9815587	ICM	C08G059-42
	ICS	C09D133-06; C09D163-00
	IPCI	C08G0059-42 [ICM, 6]; C08G0059-00 [ICM, 6, C*]; C09D0133-06 [ICS, 6]; C09D0163-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
CA 2267791	ECLA	C08G059/42; C09D163/00; C08G059/42K; C09D133/06B6+C
	IPCI	C08K0005-00 [ICM, 6]; C09D0163-00 [ICS, 6]; C08K0005-092 [ICS, 6]; C08K0005-3477 [ICS, 6]; C08G0059-42 [ICS, 6]; C08G0059-00 [ICS, 6, C*]
AU 9743425	IPCI	C08G0059-42 [ICM, 6]; C08G0059-00 [ICM, 6, C*]; C09D0133-06 [ICS, 6]; C09D0163-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
EP 931104	IPCI	C08G0059-42 [ICM, 6]; C08G0059-00 [ICM, 6, C*]; C09D0133-06 [ICS, 6]; C09D0163-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
BR 9712216	IPCI	C08G0059-42 [ICM, 6]; C08G0059-00 [ICM, 6, C*]; C09D0133-06 [ICS, 6]; C09D0163-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
CN 1232477	IPCI	C08G0059-42 [ICM, 6]; C08G0059-00 [ICM, 6, C*]; C09D0133-06 [ICS, 6]; C09D0163-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
JP 2001502003	IPCI	C08G0059-42 [ICM, 7]; C08G0059-00 [ICM, 7, C*]; C09D0133-06 [ICS, 7]; C09D0163-00 [ICS, 7]
US 5925285	IPCI	C09K0003-00 [ICM, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
	NCL	252/182.280; 252/182.120; 252/182.230
US 6130297	ECLA	C08G059/42K; C09D163/00
	IPCI	C08G0059-42 [ICM, 7]; C08G0059-00 [ICM, 7, C*]; C08L0033-14 [ICS, 7]; C08L0033-00 [ICS, 7, C*]; C08L0063-00 [ICS, 7]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
	NCL	525/327.300; 252/182.280; 525/533.000
NO 9901636	ECLA	C08G059/42; C08G059/42K; C09D163/00
	IPCI	C08G0059-42 [ICM, 6]; C08G0059-00 [ICM, 6, C*]; C09D0133-06 [ICS, 6]; C09D0163-00 [ICS, 6]
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
KR 2000048959	IPCI	C09D0163-00
	IPCR	C08G0059-00 [I, C*]; C08G0059-42 [I, A]; C09D0133-06 [I, A]; C09D0133-06 [I, C*]; C09D0163-00 [I, A]; C09D0163-00 [I, C*]
AB	The title compns. comprise 1,3,5-tris(2-carboxyethyl) isocyanurate (I) (and/or salts thereof) and a dicarboxylic acid (and/or salts thereof) in 20:80 to 98:2 ratio. A powder coating composition giving a cured coating with 60° gloss 52.1% and 20° gloss 12.6% comprised I 6.9, 1,12-dodecanedioic acid 6.9, Almatex PD-7610 66.2, R960-48 20, and Resiflow P-67 1 part.	
ST	crosslinking agent acrylic powder coating; carboxyethyl isocyanurate crosslinker acrylic powder coating; dodecanedioic acid crosslinker acrylic powder coating; malic acid crosslinker acrylic powder coating	
IT	Crosslinking agents (carboxy functional crosslinker compns. and curable compns. containing the	

same, and coating and coated products therewith, with low gloss and good durability)

IT Coating materials  
 (powder; carboxy functional crosslinker compns. and curable compns. containing the same, and coating and coated products therewith, with low gloss and good durability)

IT 2904-28-1P 2904-41-8P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (carboxy functional crosslinker compns. and curable compns. containing the same, and coating and coated products therewith, with low gloss and good durability)

IT 205370-01-0P 205370-02-1P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (carboxy functional crosslinker compns. and curable compns. containing the same, and coating and coated products therewith, with low gloss and good durability)

IT 107-13-1, Acrylonitrile, reactions 108-80-5, Cyanuric acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (carboxy functional crosslinker compns. and curable compns. containing the same, and coating and coated products therewith, with low gloss and good durability)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Beck & Co Ag; GB 1522659 A 1978
- (2) Cytec Tech Corp; WO 9417119 A 1994 CAPLUS
- (3) Enichem Sintesi; EP 0318088 A 1989 CAPLUS
- (4) Sorokin, M; SU 527450 A CAPLUS

L7 ANSWER 11 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:147178 CAPLUS

DN 128:189508

ED Entered STN: 11 Mar 1998

TI Isocyanuric acid derivatives as inhibitors of deposition of underwater organisms

IN Etoh, Hideo

PA Nissan Chemical Industries, Ltd., Japan; Etoh, Hideo

SO PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM A01N043-64

ICS C07D251-34

CC 5-4 (Agrochemical Bioregulators)

Section cross-reference(s): 42

FAN.CNT 1

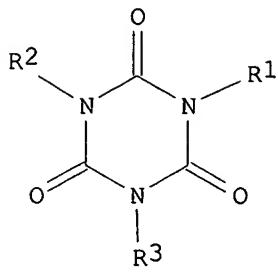
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9807322	A1	19980226	WO 1997-JP2833	19970814
	W: AU, BR, CA, CN, IL, JP, KR, MX, NO, NZ, PL, RO, RU, SG, TR, US, VN RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE AU 9738652				
PRAI	JP 1996-219686	A	19960821		
	JP 1997-5278	A	19970116		
	WO 1997-JP2833	W	19970814		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9807322	ICM	A01N043-64
	ICS	C07D251-34
	IPCI	A01N0043-64 [ICM,6]; C07D0251-34 [ICS,6]; C07D0251-00 [ICS,6,C*]
	IPCR	A01N0043-64 [I,A]; A01N0043-64 [I,C*]; A01N0047-10 [I,C*]; A01N0047-16 [I,A]; A01N0047-40 [I,C*];

AU 9738652      ECLA A01N0047-46 [I,A]; C07D0251-00 [I,C\*]; C07D0251-34  
 [I,A]  
 IPCI A01N043/64; A01N047/16; A01N047/46; C07D251/34  
 A01N0043-64 [ICM,6]; C07D0251-34 [ICS,6]; C07D0251-00  
 [ICS,6,C\*]  
 IPCR A01N0043-64 [I,A]; A01N0043-64 [I,C\*]; A01N0047-10  
 [I,C\*]; A01N0047-16 [I,A]; A01N0047-40 [I,C\*];  
 A01N0047-46 [I,A]; C07D0251-00 [I,C\*]; C07D0251-34  
 [I,A]

OS MARPAT 128:189508  
 GI



AB Antifouling agents comprise isocyanuric acid derivs. (I) as the active ingredient, wherein R1, R2, and R3 each independently represent a hydroxycarbonyl group, a C2-7 alkoxy carbonyl group, a C4-7 alkenyloxy carbonyl group, a C4-7 alkynyl oxy carbonyl group, a C2-7 alkyl carbonyl group, a straight-chain or branched alkyl group optionally substituted by a group selected from among thiocyanate, isothiocyanate, nitro, and cyano groups, a straight-chain or branched C2-7 alkenyl group, or a hydrogen atom, provided that R1, R2, and R3 are not simultaneously hydrogen atoms. Thus, I (R1, R2, and R3 = CH<sub>2</sub>CH<sub>2</sub>CN) at 565.1 mg controlled fouling for 105 days when applied to a plate that was immersed apprx. 1 m under the surface of the sea.

ST antifoulant isocyanurate deriv; coating antifoulant isocyanurate

IT Coating materials

(antifouling; containing isocyanuric acid derivs.)

IT Antifouling agents

(isocyanuric acid derivs. as)

IT 1025-15-6 2904-28-1 2904-41-8 61050-97-3 203565-22-4

203565-23-5 203565-24-6 203565-25-7

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(as antifouling agent)

IT 108-80-5D, Isocyanuric acid, derivs.

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(as antifouling agents)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Bayer Ag; JP 02-164873 A 1990 CAPLUS
- (2) Bayer Ag; EP 364765 A2 1990 CAPLUS
- (3) Bayer Ag; US 4933341 A 1990 CAPLUS
- (4) Bayer Ag; HU 59372 A 1990 CAPLUS
- (5) Bayer Ag; DK 8904945 A 1990 CAPLUS
- (6) Chugai Pharmaceutical Co Ltd; JP 53-38624 A 1978 CAPLUS
- (7) Globus, A; FR 2640850 A1 1990 CAPLUS
- (8) Globus, A; US 4954316 A 1990 CAPLUS
- (9) Globus, A; WO 9006679 A1 1990 CAPLUS
- (10) Nippon Soda Co Ltd; JP 05-43407 A 1993 CAPLUS

(11) Shikoku Kagaku Kogyo K K; JP 45-9671 B 1970

L7 ANSWER 12 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1997:731820 CAPLUS  
DN 128:6324  
ED Entered STN: 20 Nov 1997  
TI Water-soluble rust inhibitor  
IN Fuchigami, Masaharu  
PA Yushiro Chemical Industry Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C23F011-14  
      ICS C23F011-14; C23F011-12  
CC 56-6 (Nonferrous Metals and Alloys)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09291381	A2	19971111	JP 1996-129106	19960424
	JP 3524677	B2	20040510		
PRAI	JP 1996-129106		19960424		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 09291381	ICM	C23F011-14
	ICS	C23F011-14; C23F011-12
	IPCI	C23F0011-14 [ICM,6]; C23F0011-14 [ICS,6]; C23F0011-12 [ICS,6]

AB The rust inhibitor contains condensation products of urea or its derivs. and salts of alkali metals, alkali earth metals, and amines. The condensation product of urea is selected from cyanuric acid isocyanuric acid, hydantoic acid, and alantoin, and that of urea derivs. from tris(carboxymethyl) cyanuric acid, tris(carboxyethyl) cyanuric acid, tris(carboxymethyl) isocyanuric acid, and tris(carboxyethyl) isocyanuric acid.

ST water soluble rust inhibitor

IT Corrosion inhibitors

(water-soluble rust inhibitor)

IT 69-93-2, Uric acid, uses 97-59-6 108-80-5, Cyanuric acid 462-60-2, Hydantoic acid 1968-52-1 2904-41-8

RL: TEM (Technical or engineered material use); USES (Uses)  
(water-soluble rust inhibitor)

L7 ANSWER 13 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:656918 CAPLUS

DN 121:256918

ED Entered STN: 26 Nov 1994

TI Analysis of normal vibrations of triisocyanurate structures

AU Grigor'yeva, S. V.; Furer, V. L.; Maklakov, L. I.

CS Kazan. Inzh. Stroit. Inst., Kazan, 420043, Russia

SO Zhurnal Prikladnoi Spektroskopii (1994), 60(1-2), 44-9

CODEN: ZPSBAX; ISSN: 0514-7506

DT Journal

LA Russian

CC 37-4 (Plastics Manufacture and Processing)

Section cross-reference(s): 22, 36

AB Force consts. of the triisocyanurate structure are calculated by the semiempirical quantum-chemical MINDO/3 method within the frame of the valence-optical approach. A normal coordinate anal. of tricyanic acid and of a triisocyanurate ring is carried out. Forms and frequencies of normal vibrations of these mols. are found. The assignment of the exptl. IR-absorption bands associated with vibrations of triisocyanurate crosslinks of network polyurethane is made.

ST vibrational force const triisocyanurate structure; polyurethane network

IT model vibrational force const  
Urethane polymers, properties  
RL: PRP (Properties)  
(anal. of normal vibrations of triisocyanurate structures as related to triisocyanurate crosslinks in networks of)

IT Force constant  
(anal. of normal vibrations of triisocyanurate structures as related to triisocyanurate crosslinks of polyurethane networks)

IT Infrared spectra  
Molecular vibration  
(of triisocyanurate structures as related to triisocyanurate crosslinks in networks of)

IT 108-80-5, Isocyanuric acid 839-90-7, Tris(2-hydroxyethyl) isocyanurate  
1025-15-6, Triallyl isocyanurate 1785-02-0, Triphenyl isocyanurate  
2904-28-1 2904-41-8, Tris(2-carboxyethyl) isocyanurate  
RL: PRP (Properties)  
(model compound; anal. of normal vibrations of triisocyanurate structures as related to triisocyanurate crosslinks of polyurethane networks)

L7 ANSWER 14 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1994:56903 CAPLUS  
DN 120:56903  
ED Entered STN: 05 Feb 1994  
TI Rosin-modified phenolic resins for printing inks with excellent scumming resistance  
IN Kadokuma, Takashi; Arimoto, Kazuhiro  
PA Arakawa Chem Ind, Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08G008-34  
      ICS C09D011-10  
CC 42-12 (Coatings, Inks, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05222144	A2	19930831	JP 1992-59692	19920213
JP 3166274	B2	20010514		
PRAI JP 1992-59692		19920213		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 05222144	ICM	C08G008-34
	ICS	C09D011-10
	IPCI	C08G0008-34 [ICM,5]; C08G0008-00 [ICM,5,C*]; C09D0011-10 [ICS,5]

AB Title resins, useful as binders for waterless lithog. inks, contain rosin-modified phenolic resins treated with isocyanuric acids. Thus, 1700 parts gum rosin and 1400 parts p-octylphenol-HCHO copolymer were heated at 250-260° for 3 h and treated with 90 parts tris(2-hydroxyethyl) isocyanurate and 130 parts glycerin to give a polymer, which was used as a binder for a waterless' lithog. ink.

ST isocyanurate rosin phenolic resin ink; scumming resistance ink phenolic resin

IT Resin acids and Rosin acids  
RL: USES (Uses)  
(esters, reaction products with phenolic resins and isocyanurates, binders, for waterless lithog. inks, with good scumming resistance)

IT Inks  
(lithog., waterless, binders for, rosin- and isocyanurate-modified phenolic resins as, with good scumming resistance)

IT Urethane polymers, uses  
RL: USES (Uses)  
(phenolic, binders, for waterless lithog. inks, with good scumming

resistance)  
 IT Phenolic resins, uses  
 RL: USES (Uses)  
     (polyurethane-, binders, for waterless lithog. inks, with good scumming  
     resistance)  
 IT Phenolic resins, compounds  
 RL: USES (Uses)  
     (reaction products, with rosins and isocyanurates, for waterless  
     lithog. ink binders, with good scumming resistance)  
 IT 56-81-5DP, Glycerin, reaction products with rosin-modified phenolic resins  
     and isocyanurates 839-90-7DP, Tris(2-hydroxyethyl) isocyanurate,  
     reaction products with rosin-modified phenolic resins and glycerin  
     2904-41-8DP, Tris(2-carboxyethyl) isocyanurate, reaction products  
     with rosin-modified phenolic resins and glycerin 24468-39-1DP,  
     Tris(2,3-dihydroxypropyl) isocyanurate, reaction products with  
     rosin-modified phenolic resins and glycerin 26678-93-3DP,  
     Formaldehyde-p-octylphenol copolymer, reaction products with rosins,  
     isocyanurates, and glycerin  
 RL: PREP (Preparation)  
     (preparation of, binders, for waterless lithog. inks, with good scumming  
     resistance)

L7 ANSWER 15 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:83318 CAPLUS

DN 114:83318

ED Entered STN: 09 Mar 1991

TI Heat stabilizers for halogen-containing polymers

IN Stern, Peter; Meszaros, Peter

PA BBU-Chemie G.m.b.H., Austria

SO Austrian, 6 pp.

CODEN: AUXXAK

DT Patent

LA German

IC ICM C08K013-02

ICS C08K003-34; C08K005-3477; C08L027-04; C08L027-06

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 2

	PATENT NO..	KIND	DATE	APPLICATION NO.	DATE
PI	AT 391474	B	19901010	AT 1988-3088	19881219
	AT 8803088	A	19900415		
	EP 377428	A1	19900711	EP 1989-890316	19891213
	EP 377428	B1	19950215		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	CA 2005821	AA	19900619	CA 1989-2005821	19891218
	CA 2005821	C	19960430		
	US 5073584	A	19911217	US 1989-452161	19891218
PRAI	AT 1988-3088	A	19881219		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
AT 391474	ICM	C08K013-02	
	ICS	C08K003-34; C08K005-3477; C08L027-04; C08L027-06	
	IPCI	C08K0013-02 [ICM,5]; C08K0013-00 [ICM,5,C*]; C08K0003-34 [ICS,5]; C08K0003-00 [ICS,5,C*]; C08K0005-3477 [ICS,5]; C08K0005-00 [ICS,5,C*]; C08L0027-04 [ICS,5]; C08L0027-06 [ICS,5]; C08L0027-00 [ICS,5,C*]	
EP 377428	IPCR	C08K0003-00 [I,C*]; C08K0003-34 [I,A]; C08K0005-00 [I,C*]; C08K0005-3477 [I,A]	
	IPCI	C08K0013-02; C08K0013-00 [C*]	
	IPCR	C08K0003-00 [I,C*]; C08K0003-34 [I,A]; C08K0005-00 [I,C*]; C08K0005-3477 [I,A]	
CA 2005821	ECLA	C08K003/34+L27/06; C08K005/3477+L27/06	
	IPCI	C09K0015-20; C09K0015-00 [C*]	

IPCR C08K0003-00 [I,C\*]; C08K0003-34 [I,A]; C08K0005-00  
 [I,C\*]; C08K0005-3477 [I,A]  
 US 5073584 IPCI C08K0034-92; C09K0005-15; C08K0005-04; C08K0005-00 [C\*]  
 IPCR C08K0003-00 [I,C\*]; C08K0003-34 [I,A]; C08K0005-00  
 [I,C\*]; C08K0005-3477 [I,A]  
 NCL 524/101.000; 524/109.000; 524/400.000; 524/450.000  
 OS MARPAT 114:83318  
 AB Mixts. of crystalline, synthetic alkali metal aluminosilicates containing  
 13-25%  
 bound H<sub>2</sub>O and isocyanurates of the alcs. RCH(X)(CH<sub>2</sub>)<sub>n</sub>OH (R = OH, CO<sub>2</sub>H; X =  
 H, alkyl; n = 0-5) are heat stabilizers for halogen-containing polymers,  
 especially  
 PVC. PVC containing Ca laurate 0.7, Zn laurate 0.6, paraffin wax 0.5, alkali  
 metal aluminosilicate 1.0, and tris(2-hydroxyethyl) isocyanurate (I) 0.4  
 phr had blackening time in heating tests 67 min, and yellowness index  
 22.5, 27.7, 52.7, and 111.3 after 0, 10, 30, and 60 min, resp.; vs. 24 min  
 and 41.2, 62.9, and 70.1, after 0, 10, and 20 min, resp., without I.  
 ST heat stabilizer PVC; aluminosilicate heat stabilizer; hydroxyethyl  
 isocyanurate heat stabilizer; carboxyalkyl isocyanurate heat stabilizer  
 IT Aluminosilicates, uses and miscellaneous  
 RL: USES (Uses)  
 (alkali metal, heat stabilizers for halogen-containing polymers)  
 IT Heat stabilizers  
 (aluminosilicates and isocyanurate esters, for halogen-containing polymers)  
 IT Polymers, uses and miscellaneous  
 RL: USES (Uses)  
 (halo, heat stabilizers for, alkali metal aluminosilicates and  
 isocyanurate esters as)  
 IT 1335-30-4  
 RL: USES (Uses)  
 (aluminosilicates, alkali metal, heat stabilizers for halogen-containing  
 polymers)  
 IT 9002-86-2  
 RL: USES (Uses)  
 (heat stabilizers for, alkali metal aluminosilicates and isocyanurate  
 esters as)  
 IT 839-90-7, Tris(2-hydroxyethyl)isocyanurate 2904-41-8,  
 Tris(2-carboxyethyl)isocyanurate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (heat stabilizers, for halogen-containing polymers)

L7 ANSWER 16 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1990:573514 CAPLUS  
 DN 113:173514  
 ED Entered STN: 09 Nov 1990  
 TI Aluminosilicates and isocyanurates as heat stabilizers for  
 halogen-containing polymers  
 IN Meszaros, Peter; Stern, Peter  
 PA Chemson Polymer-Additive G.m.b.H., Austria  
 SO Eur. Pat. Appl., 7 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA German  
 IC ICM C08K013-02  
 ICS C08L027-06  
 ICI C08K013-02, C08K003-34, C08K005-3477  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 377428	A1	19900711	EP 1989-890316	19891213
	EP 377428	B1	19950215		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AT 391474	B	19901010	AT 1988-3088	19881219
	AT 8803088	A	19900415		

PRAI AT 1988-3088

A 19881219

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 377428	ICM ICS ICI IPCI IPCR ECLA	C08K013-02 C08L027-06 C08K013-02, C08K003-34, C08K005-3477 C08K0013-02; C08K0013-00 [C*] C08K0003-00 [I,C*]; C08K0003-34 [I,A]; C08K0005-00 [I,C*]; C08K0005-3477 [I,A] C08K003/34+L27/06; C08K005/3477+L27/06
AT 391474	IPCI	C08K0013-02 [ICM,5]; C08K0013-00 [ICM,5,C*]; C08K0003-34 [ICS,5]; C08K0003-00 [ICS,5,C*]; C08K0005-3477 [ICS,5]; C08K0005-00 [ICS,5,C*]; C08L0027-04 [ICS,5]; C08L0027-06 [ICS,5]; C08L0027-00 [ICS,5,C*]
	IPCR	C08K0003-00 [I,C*]; C08K0003-34 [I,A]; C08K0005-00 [I,C*]; C08K0005-3477 [I,A]
OS	MARPAT 113:173514	
AB	Mixts. of aluminosilicates containing M2O.Al2O3 (M = alkali metal) and SiO2 in 0.7-1.1:1.3-2.4 ratio (13-25%) and 1:3 isocyanurates of the alcs. RCH(X)(CH2)nOH (R = H, C1-6 alkyl; X = OH, CO2H; n = 0-5) are heat stabilizers for halogen-containing polymers. Thus, suspension PVC containing	
Ca	laurate 0.7, Zn laurate 0.6, synthetic paraffin 0.5, an alkali metal aluminosilicate 1.0, and tris(2-hydroxyethyl) isocyanurate (I) 0.4 phr had yellowness index 22.5, 27.7, 38.5, 64.9, and 111.3 after 0, 10, 20, 40, and 60 min, resp., at 180°; vs. 41.2, 61.7, 70.1, -, and -, resp., without I.	
ST	heat stabilizer polymer halogenated; PVC heat stabilizer; aluminosilicate heat stabilizer; isocyanurate heat stabilizer; hydroxyethyl isocyanurate heat stabilizer	
IT	Heat stabilizers (alkali metal aluminosilicates and isocyanurate esters, for halogen-containing polymers)	
IT	Aluminosilicates, uses and miscellaneous RL: MOA (Modifier or additive use); USES (Uses) (heat stabilizers, for halogen-containing polymers)	
IT	Polymers, uses and miscellaneous RL: USES (Uses) (halo, heat stabilizers for, alkali metal aluminosilicates and isocyanurate esters as)	
IT	1335-30-4 RL: USES (Uses) (aluminosilicates, heat stabilizers, for halogen-containing polymers)	
IT	9002-86-2 RL: USES (Uses) (heat stabilizers for, alkali metal aluminosilicates and isocyanurate esters as)	
IT	839-90-7, Tris(2-hydroxyethyl)isocyanurate 2904-41-8, Tris(2-carboxyethyl)isocyanurate RL: MOA (Modifier or additive use); USES (Uses) (heat stabilizers, for halogen-containing polymers)	
L7	ANSWER 17 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN	
AN	1989:157134 CAPLUS	
DN	110:157134	
ED	Entered STN: 30 Apr 1989	
TI	Synthesis of zeolite ZMS 5 in cyanuric acid or its derivatives	
IN	Maruoka, Toshiharu; Maeda, Shuzo; Matsushita, Mikinori	
PA	Shikoku Chemicals Corp., Japan	
SO	Jpn. Kokai Tokkyo Koho, 6 pp.	
	CODEN: JKXXAF	
DT	Patent	
LA	Japanese	

IC ICM C01B033-28  
CC 49-4 (Industrial Inorganic Chemicals)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 63315513	A2	19881223	JP 1987-152988	19870618
PRAI JP 1987-152988		19870618		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 63315513	ICM	C01B033-28
	IPCI	C01B0033-28 [ICM, 4]

AB Zeolite ZSM 5 is crystallized by heating an aqueous mixture containing a SiO<sub>2</sub> source, an

Al<sub>2</sub>O<sub>3</sub> source, and an alkali metal source, at 80-230° in cyanuric acid or its derivative. The zeolites are prepared at low cost by addition of the

acid or derivative under safe working conditions. A stirred autoclave was filled with an aqueous solution comprising water glass 200, Al<sub>2</sub>(SO<sub>4</sub>)<sub>2</sub>·16H<sub>2</sub>O 19.34, 80% H<sub>2</sub>SO<sub>4</sub> 11.61, isocyanuric acid 1.52, and water 665 g, heated at 180° and 150 rpm for 20 h, and the reaction product, obtained by filtration and washing the solution, was dried at 110° for 2 h to give 54.6 g white powder, which was confirmed as ZMS 5 comprising Na<sub>2</sub>O, SiO<sub>2</sub>, and Al<sub>2</sub>O<sub>3</sub> in mol. ratio. 0.9:25:1.

ST zeolite ZSM5 prepn cyanuric acid; water glass silica alumina zeolite

IT Zeolites, preparation

RL: PREP (Preparation)

(ZSM 5, preparation of, in presence of cyanuric acid or its derivative)

IT 1344-09-8, Water glass 7631-86-9, Silica, uses and miscellaneous

RL: USES (Uses)

(zeolite ZSM 5 preparation from aluminum sulfate and sodium hydroxide and, in presence of cyanuric acid or its derivative)

IT 1310-73-2, Sodium hydroxide, uses and miscellaneous

RL: USES (Uses)

(zeolite ZSM 5 preparation from water glass and aluminum sulfate and, in presence of cyanuric acid or its derivative)

IT 10043-01-3, Aluminum sulfate

RL: USES (Uses)

(zeolite ZSM 5 preparation from water glass and, in presence of cyanuric acid or its derivative)

IT 108-80-5, 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione 839-90-7,

Tris(2-hydroxyethyl) isocyanurate

RL: USES (Uses)

(zeolite ZSM 5 preparation in presence of, from silica and aluminum sulfate and sodium hydroxide)

IT 108-80-5, Isocyanuric acid 2624-17-1, Monosodium cyanurate

2904-41-8, Tris(2-carboxyethyl) isocyanurate

RL: USES (Uses)

(zeolite ZSM 5 preparation in presence of, from water glass and aluminum sulfate)

IT 1335-30-4P

RL: PREP (Preparation)

(zeolites, ZSM 5, preparation of, in presence of cyanuric acid or its derivative)

L7 ANSWER 18 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1985:407227 CAPLUS

DN 103:7227

ED Entered STN: 12 Jul 1985

TI Granular polymers containing imide groups

PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G018-34  
CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60040114	A2	19850302	JP 1983-148665	19830812
	JP 62020215	B4	19870506		
	EP 137205	A2	19850417	EP 1984-109502	19840809
	EP 137205	A3	19860611		
	R: DE, FR, GB				
PRAI	JP 1983-148665	A	19830812		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	JP 60040114	ICM	C08G018-34
		IPCI	C08G0018-34 [ICM, 4]; C08G0018-00 [ICM, 4, C*]
		IPCR	C08G0018-00 [I, C*]; C08G0018-08 [I, A]; C08G0018-34 [I, A]; C08G0069-00 [I, C*]; C08G0069-28 [I, A]; C08G0073-00 [I, C*]; C08G0073-10 [I, A]
	EP 137205	IPCI	C08G0018-34 [ICM, 4]; C08G0018-08 [ICS, 4]; C08G0018-00 [ICS, 4, C*]; C08G0073-10 [ICS, 4]; C08G0073-00 [ICS, 4, C*]
		IPCR	C08G0018-00 [I, C*]; C08G0018-08 [I, A]; C08G0018-34 [I, A]; C08G0069-00 [I, C*]; C08G0069-28 [I, A]; C08G0073-00 [I, C*]; C08G0073-10 [I, A]

AB Polyisocyanates react with anhydride group-containing polycarboxylic acids and/or polycarboxylic acids in nonaq. organic liqs. which do not dissolve the granular polymers in the presence of dispersion stabilizers soluble in the nonaq. organic liqs. to prepare granular polymers. Thus, granular MDI-trimellitic anhydride copolymer [25053-57-0] having diameter 10-30  $\mu$  was prepared using 2-hydroxyethyl methacrylate-lauryl methacrylate copolymer [34888-27-2] as a dispersion stabilizer and Isopar H as a solvent.

ST polyamide imide granule; polyimide amide granule; dispersant methacrylate copolymer polyimide

IT Polymers, uses and miscellaneous

RL: USES (Uses)  
(dispersing agents, for manufacture of granular polymers containing imide groups)

IT Polymerization  
(of polycarboxylic acids and polyisocyanates, dispersing agents for)

IT Granular substances  
(polymers, containing imide groups, manufacture of, dispersing agents for)

IT Dispersing agents  
(polymers, for manufacture of granular polymers containing imide groups)

IT Carboxylic acids, polymers

RL: USES (Uses)  
(poly-, polymers with polyisocyanates, granular, manufacture of, dispersing agents for)

IT Polyimides, preparation

RL: PREP (Preparation)  
(polyamide-, granular, manufacture of, dispersing agents for)

IT Polyamides, preparation

RL: PREP (Preparation)  
(polyimide-, granular, manufacture of, dispersing agents for)

IT 27357-94-4 28851-51-6 34888-27-2 60542-45-2 88943-75-3  
96926-38-4

RL: USES (Uses)  
(dispersing agents, for manufacture of granular polymers containing imide groups)

IT 100-21-0DP, polymers with polyisocyanates 139-13-9DP, polymers with polyisocyanates 554-95-0DP, polymers with polyisocyanates 2421-28-5DP, polymers with polyisocyanates 2904-41-8DP, polymers with polyisocyanates 25053-57-0P 25464-63-5P 25496-56-4P 25656-56-8P 26471-62-5DP, polymers with polycarboxylic acids 33194-72-8P 38103-06-9DP, polymers with polyisocyanates 96934-22-4P

RL: PREP (Preparation)

(granular, manufacture of, dispersing agents for)

L7 ANSWER 19 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1985:46785 CAPLUS

DN 102:46785

ED Entered STN: 09 Feb 1985

TI Fire-resistant polyamide compositions

PA Ube Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C08L077-00; C08K005-34

CC 37-6 (Plastics Manufacture and Processing)

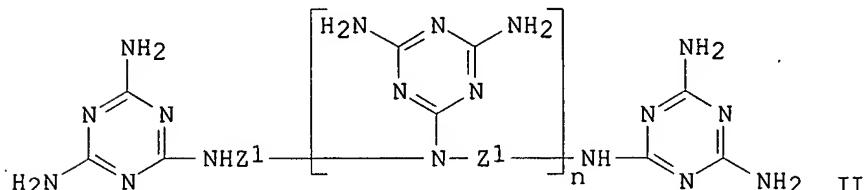
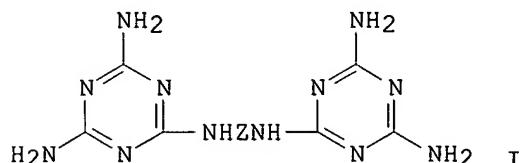
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59105051	A2	19840618	JP 1982-213321	19821207
PRAI JP 1982-213321		19821207		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 59105051	IC	C08L077-00; C08K005-34
	IPCI	C08L0077-00; C08K0005-34; C08K0005-00 [C*]
	IPCR	C08K0005-00 [I,C*]; C08K0005-34 [I,A]; C08L0077-00 [I,A]; C08L0077-00 [I,C*]

GI



AB Polyamide is mixed with melamine derivs. I (Z = C1-15 hydrocarbyl) and (or) II (Z1 = C1-15 hydrocarbyl, n = 1-5) and cyanuric acid derivs. to give compns. having excellent fire-resistance for moldings with good phys. properties and appearance without bleeding of the flame retardant. Thus, nylon 6 [25038-54-4] pellet (number-average mol. weight 1.3 + 104) 94, ethylenedimelamine [42445-78-3] 6, and cyanuric acid [108-80-5] were blended and pelletized to give a title composition

ST polyamide melamine fireproofing; cyanuric acid fireproofing polyamide  
IT Fireproofing agents

(cyanuric acid compds.-melamine derivs., for polyamides)

IT Polyamides, uses and miscellaneous

RL: POF (Polymer in formulation); USES (Uses)

(fireproofing agents for, melamine and cyanuric acid derivs. as)

IT 25038-54-4, uses and miscellaneous

RL: POF (Polymer in formulation); USES (Uses)

(fireproofing agents for, melamine and cyanuric acid compds. as)

IT 42445-79-4 89352-30-7

IT RL: USES (Uses)  
(fireproofing agents, containing cyanuric acid derivs., for polyamides)  
IT 42445-78-3  
IT RL: USES (Uses)  
(fireproofing agents, containing cyanuric acid, for polyamides)  
IT 108-80-5 827-16-7 839-90-7 1785-02-0 2904-41-8  
IT RL: USES (Uses)  
(fireproofing agents, containing melamine derivs., for polyamides)

L7 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1985:7116 CAPLUS  
DN 102:7116  
ED Entered STN: 12 Jan 1985  
TI Addition of epichlorohydrin to tris(2-carboxyethyl) isocyanurate  
AU Kucharski, Mieczyslaw; Rokaszewski, Edward  
CS Zakl. Chem. Org., Politech. Rzeszowska, Rzeszow, Pol.  
SO Zeszyty Naukowe Politechniki Rzeszowskiej (1984), 3, 49-54  
CODEN: ZNPREM; ISSN: 0209-2670  
DT Journal  
LA Polish  
CC 35-2 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 28  
OS CASREACT 102:7116  
AB Tris(2-cyanoethyl) isocyanurate (I) [2904-28-1] was prepared in 50.7% yield from isocyanuric acid [108-80-5] and acrylonitrile [107-13-1] in the presence of Et<sub>3</sub>N [121-44-8] at 70° for 7 h. Recycling the mother liquor increased the yield to 84% yield and 97% in the 2nd and 3rd cycle, resp. I was hydrolyzed to tris(2-carboxyethyl) isocyanurate (II). [2904-41-8] (yield 99%) in aqueous HCl at CN-HCl mol ratio HCl 3:1. II and epichlorohydrin [106-89-8] in the presence of Et<sub>3</sub>N gave II tris(3-chloro-2-hydroxypropyl) ester [93661-46-2].  
ST isocyanuric acid cyanoethylation; cyanoethyl isocyanurate hydrolysis; carboxyethyl isocyanurate esterification epichlorohydrin  
IT Cyanoethylation catalysts  
(triethylamine, for isocyanuric acid with acrylonitrile)  
IT Esterification catalysts  
(triethylamine, for tris(carboxyethyl) isocyanurate by epichlorohydrin)  
IT 121-44-8, uses and miscellaneous  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst, for cyanoethylation of isocyanuric acid)  
IT 107-13-1, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyanoethylation by, of isocyanuric acid)  
IT 108-80-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyanoethylation of)  
IT 106-89-8, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification by, of tris(carboxyethyl) isocyanurate)  
IT 2904-41-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and esterification of)  
IT 2904-28-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)  
IT 93661-46-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L7 ANSWER 21 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1984:424494 CAPLUS  
DN 101:24494  
ED Entered STN: 21 Jul 1984

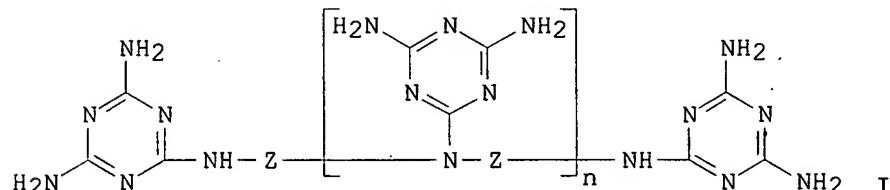
TI Fire-resistant polyamide composition  
 PA Ube Industries, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC C08L077-00; C08K005-09; C08K005-34  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58168653	A2	19831005	JP 1982-50039	19820330
	JP 63056902	B4	19881109		
	US 4452931	A	19840605	US 1983-478377	19830324
PRAI	JP 1982-50039	A	19820330		
	JP 1982-60351	A	19820413		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	JP 58168653	IC	C08L077-00; C08K005-09; C08K005-34
		IPCI	C08L0077-00; C08K0005-09; C08K0005-34; C08K0005-00 [C*]
		IPCR	C08K0005-00 [I,C*]; C08K0005-09 [I,A]; C08K0005-34 [I,A]; C08L0077-00 [I,A]; C08L0077-00 [I,C*]
	US 4452931	IPCI	C08K0005-09; C08K0005-34; C08K0005-00 [C*]
		IPCR	C08K0005-00 [I,C*]; C08K0005-3492 [I,A]
		NCL	524/100.000; 524/101.000; 524/112.000; 524/287.000; 524/300.000; 524/322.000

OS MARPAT 101:24494  
GI



- AB The title composition is prepared by mixing a polyamide, I ( $Z = C1-15$  hydrocarbon diyl,  $n = 0$ ) and/or I ( $Z = \text{same}$ ,  $n = 1-5$ ), and a carboxylic acid (or derivative) having a higher b.p. or decomposition temperature than the m.p. of the polyamide. The composition has excellent appearance, phys. properties, and flame and bleed-out resistance. Thus, nylon 6 [25038-54-4] pellets, ethylenedimelamine [42445-78-3], and sebacic acid [111-20-6] were blended, pelletized and heat-press-molded to give the composition
- ST melamine polyamide fire resistance; carboxylic acid polyamide compn
- IT Carboxylic acids, uses and miscellaneous  
 RL: USES (Uses)  
     (polyamide-alkylenepolymelamine compns. containing, fire-resistant)
- IT Fire-resistant materials  
     (polyamide-alkylenepolymelamine-carboxylic acid compns., bleedout-resistant)
- IT 25038-54-4, uses and miscellaneous  
 RL: USES (Uses)  
     (blends with ethylenedimelamine and sebacic acid, fire- and bleedout-resistant)
- IT 111-20-6, uses and miscellaneous  
 RL: USES (Uses)  
     (nylon 6-ethylenedimelamine compns. containing, flame- and bleedout-resistant)
- IT 85-44-9 121-91-5, uses and miscellaneous . 693-23-2 693-57-2

2904-41-8

RL: USES (Uses)

(polyamide compns. containing alkylene polymelamine and, fire-resistant moldings)

IT 42445-78-3 42445-79-4 89352-30-7

RL: USES (Uses)

(polyamide compns. containing carboxylic acid and, fire- and bleedout-resistant)

L7 ANSWER 22 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1983:89323 CAPLUS

DN 98:89323

ED Entered STN: 12 May 1984

TI Synthesis and properties of tris(2-carboxyethyl)isocyanurate esters

AU Ignat'eva, A. F.; Zagranichnyi, V. I.; Tyutina, T. N.; Karlik, V. M.

CS USSR

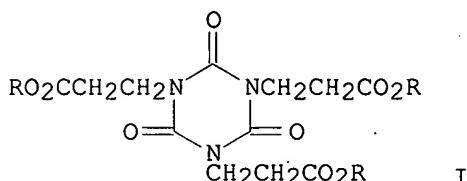
SO Deposited Doc. (1981), SPSTL 430 Khp-D81, 9 pp. Avail.: SPSTL

DT Report

LA Russian

CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))

GI



AB The title compds. I (R = Bu, C7H15, C9H19, isodecyl) were prepared from I (R = H) by esterification with ROH in presence of H2SO4, p-MeC6H4SO3H, or (BuO)4Ti.

ST esterification triscarboxyethylcyanuric acid; alkyl triscarboxyethylisocyanurates; isocyanurate ester

IT Esterification  
(of tris(carboxyethyl)isocyanuric acid by alcs.)

IT 25428-98-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification of tris(carboxyethyl) isocyanuric acid by)

IT 2904-41-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification of, by alcs.)

IT 20191-56-4P 33919-47-0P 37757-71-4P 84705-70-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

L7 ANSWER 23 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1983:73990 CAPLUS

DN 98:73990

ED Entered STN: 12 May 1984

TI Heat-resistant resin

IN Osada, Yuichi; Kasai, Shozo; Okada, Yasunori; Uchigasaki, Isao; Oshima, Toyoji; Mukoyama, Yoshiyuki; Nishizawa, Hiroshi

PA Hitachi Chemical Co., Ltd., Japan

SO Ger. Offen., 33 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C08G073-14; C08L079-08; C08G018-74; C08G018-30; H01B003-30

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3212864	A1	19821028	DE 1982-3212864	19820406
	DE 3212864	C2	19850919		
	JP 57165450	A2	19821012	JP 1981-52108	19810406
	JP 58036018	B4	19830806		
	US 4431758	A	19840214	US 1982-363799	19820331
	FR 2503171	A1	19821008	FR 1982-5793	19820402
	FR 2503171	B1	19860411		
	GB 2098618	A	19821124	GB 1982-9919	19820402
	GB 2098618	B2	19850710		
	DE 3249497	C2	19870115	DE 1982-3249497	19820406
	JP 58174441	A2	19831013	JP 1983-52210	19830328
	US 4448844	A	19840515	US 1983-518109	19830728
PRAI	JP 1981-52108	A	19810406		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE	3212864	IC	C08G073-14; C08L079-08; C08G018-74; C08G018-30; H01B003-30
		IPCI	C08G0073-14; C08G0073-00 [C*]; C08L0079-08; C08L0079-00 [C*]; C08G0018-74; C08G0018-30; C08G0018-00 [C*]; H01B0003-30
		IPCR	C08G0018-00 [I,C*]; C08G0018-28 [I,A]; C08G0018-34 [I,A]; C08G0073-00 [I,C*]; C08G0073-14 [I,A]; C08L0079-00 [I,C*]; C08L0079-08 [I,A]; H01B0003-30 [I,A]; H01B0003-30 [I,C*]
JP	57165450	IPCI	C08L0079-08; C08L0079-00 [C*]; C08G0073-14; C08G0073-00 [C*]; C09D0003-49
		IPCR	C08G0018-00 [I,C*]; C08G0018-28 [I,A]; C08G0018-34 [I,A]; C08G0073-00 [I,C*]; C08G0073-14 [I,A]; C08L0079-00 [I,C*]; C08L0079-08 [I,A]; H01B0003-30 [I,A]; H01B0003-30 [I,C*]
US	4431758	IPCI	C08G0018-60; C08G0018-83; C08G0018-00 [C*]; C08G0069-48; C08G0069-00 [C*]
		NCL	524/104.000; 524/323.000; 524/589.000; 524/590.000; 524/594.000; 524/597.000; 524/602.000; 524/609.000; 524/611.000; 525/423.000; 525/425.000; 525/427.000; 525/436.000; 525/452.000; 528/067.000; 528/073.000; 528/323.000
FR	2503171	IPCI	C08G0073-14; C08G0073-00 [C*]; C08K0005-09; C08K0005-56; C08K0005-00 [C*]; C08L0079-08; C08L0079-00 [C*]; H01B0003-38
		IPCR	C08G0018-00 [I,C*]; C08G0018-28 [I,A]; C08G0018-34 [I,A]; C08G0073-00 [I,C*]; C08G0073-14 [I,A]; C08L0079-00 [I,C*]; C08L0079-08 [I,A]; H01B0003-30 [I,A]; H01B0003-30 [I,C*]
GB	2098618	IPCI	C08G0018-83; C08G0018-00 [C*]
		IPCR	C08G0018-00 [I,C*]; C08G0018-28 [I,A]; C08G0018-34 [I,A]; C08G0073-00 [I,C*]; C08G0073-14 [I,A]; C08L0079-00 [I,C*]; C08L0079-08 [I,A]; H01B0003-30 [I,A]; H01B0003-30 [I,C*]
DE	3249497	IPCI	C08L0079-08 [ICM,4]; C08L0079-00 [ICM,4,C*]; C09D0003-70 [ICS,4]; C09D0005-25 [ICS,4]; H01B0003-30 [ICS,4]
		IPCR	C08G0018-00 [I,C*]; C08G0018-28 [I,A]; C08G0018-34 [I,A]; C08G0073-00 [I,C*]; C08G0073-14 [I,A]; C08L0079-00 [I,C*]; C08L0079-08 [I,A]; H01B0003-30 [I,A]; H01B0003-30 [I,C*]
JP	58174441	IPCI	C08L0079-08; C08L0079-00 [C*]; C08G0073-14; C08G0073-00 [C*]
		IPCR	C08G0073-00 [I,C*]; C08G0073-14 [I,A]; C08L0079-00 [I,C*]; C08L0079-08 [I,A]

US 4448844 IPCI D02G0003-00; B32B0015-08; H01B0007-00  
NCL 428/375.000; 174/110.000SR; 428/379.000; 428/458.000;  
524/104.000

AB Isocyanates, caprolactam, polyols, and polycarboxylic acids or anhydrides are used to prepare polyamide-polyimide-polyesters which are soluble in cresol. The polymer solns. are coated on Cu wire and cured to give flexible, tough coatings having good resistance to heat abrasion, hydrolysis, thermal shock, dielec. breakdown, and hot ClCHF<sub>2</sub>. Thus, 50 g isocyanurate ring-containing compound prepared from TDI was heated at 180° with [4-(OCN)C<sub>6</sub>H<sub>4</sub>]2CH<sub>2</sub> 113.3, caprolactam 39.6, and cresol 278.5 g, heated at 205° with 115.2 g trimellitic anhydride, heated at 170-200° with di-Me terephthalate 245, tris(2-hydroxyethyl)isocyanurate 263.7, and (BuO)<sub>4</sub>Ti 0.7 g, mixed with cresol (to 37% solids), (BuO)<sub>4</sub>Ti, and Zn octanoate, coated on Cu wire, and cured at 300-400° to give a coating (.apprx.0.04-mm thick) which was stable for 700 h at 260° or 2250 h at 240°.

ST elec insulator polymer wire; polyamide polyimide polyester insulator; heat resistance coating wire; polyisocyanurate elec insulator wire

IT Electric insulators and Dielectrics  
(coatings, heat-resistant, polyamide-polyester-polyimides, preparation of cresol-soluble, for wires)

IT Heat-resistant materials  
(dielec., polyamide-polyester-polyimides, coatings, for wires)

IT 101-68-8DP, polymers with alcs., carboxylic acids, isocyanates and lactams  
105-60-2DP, polymers with alcs., carboxylic acids and isocyanates  
107-21-1DP, polymers with alcs., carboxylic acids, isocyanates and lactams  
120-61-6DP, polymers with alcs., carboxylic acids, isocyanates and lactams  
552-30-7DP, polymers with alcs., carboxylic acids, isocyanates and lactams  
839-90-7DP, polymers with alcs., carboxylic acids, isocyanates and lactams  
2904-41-8DP, polymers with alcs., carboxylic acids, isocyanates and lactams  
26471-62-5DP, polymers with alcs., carboxylic acids, isocyanates and lactams 84642-09-1P 84642-10-4P 84642-11-5P

RL: PREP (Preparation)  
(preparation of cresol-soluble, heat-resistant, for coating wires)

L7 ANSWER 24 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:460596 CAPLUS

DN 83:60596

ED Entered STN: 12 May 1984

TI Light stabilizers

IN Minagawa, Motonobu; Kubota, Naohiro

PA Adeka Argus Chemicals Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

INCL 13(9)C3; 25(1)A296; 27C0

CC 36-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49078692	A2	19740729	JP 1972-120427	19721201
	JP 52043190	B4	19771028		
PRAI	JP 1972-120427	A	19721201		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 49078692	INCL	13(9)C3; 25(1)A296; 27C0
	IPCR	C07D0209-00 [N,C*]; C07D0209-48 [N,A]

AB Hydroxybenzophenone derivs. containing cyclic imide substituents were light stabilizers for organic substances. For example, 2,4-dihydroxybenzophenone [131-56-6] was treated with N-(2-bromoethyl)phthalimide [574-98-1] at 150° to give 4-(2-phthalimidoethoxy)-2-hydroxybenzophenone (I) [54035-97-1]. A PVC [9002-86-2] composition containing DOP 50, Mark WS 1, and

0.1 phr had light resistance (time to degradation in weatherometer) 600 hr,  
compared with 400 hr for a composition containing  
2-hydroxy-4-methoxybenzophenone  
in place of I. Thirteen other light stabilizers prepared included  
4-(2-succinimido-ethoxy)-2-hydroxy-4'-tert-butyl benzophenone,  
2-[2-(4-benzoyl- 3,5-dihydroxyphenoxy)ethyl]-1,3,3a,4,7,7a-hexahydro-1,3-  
dioxo-2(H)-isoindole [54080-82-9], tris[2-(4-benzoyl-3-  
hydroxyphenoxy)ethyl] isocyanurate [54035-99-3], and 4-[2-[3-(1-  
phenylethyl)-2,5-dioxo-1-pyrrolidinyl] ethoxy]-2-hydroxy-4'-  
chlorobenzophenone [54036-00-9].

ST benzophenone derivs light stabilizer; thermoplastic light stabilizer;  
paraffin oil light stabilizer

IT Light stabilizers  
(benzophenone derivs., for thermoplastics and paraffin oil)

IT Paraffin oils  
RL: USES (Uses)  
(light stabilizers for, hydroxybenzophenone derivs. as)

IT 131-56-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification and etherification of)

IT 9002-86-2 9002-88-4 9003-07-0 9003-56-9 24937-78-8 25038-54-4  
RL: USES (Uses)  
(light stabilizers for, hydroxybenzophenone derivs. as)

IT 54035-90-4 54035-91-5 54035-92-6 54035-93-7 54035-97-1  
54035-98-2 54035-99-3 54036-00-9 54036-01-0 54036-02-1  
54036-26-9 54080-82-9 54080-83-0 54080-84-1  
RL: USES (Uses)  
(light stabilizers, for thermoplastics and paraffin oil)

IT 18239-10-6  
RL: USES (Uses)  
(reaction of with, with phthalimidohexanoyl chloride)

IT 21332-56-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (bromoethyl)succinimide and phthalimidoacetyl  
chloride and bis(chlorocarbonylmethyl)pyromellitic diimide)

IT 3555-86-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (bromoethyl)tetrahydropthalimide)

IT 54035-95-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with 2,4,6-trihydroxybenzophenone)

IT 6780-38-7 10397-83-8 54035-94-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dihydroxy(dimethethyl)benzophenone)

IT 574-98-1 2904-41-8 54035-96-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dihydroxybenzophenone)

IT 31968-60-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dihydroxychlorobenzophenone)

L7 ANSWER 25 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1975:430317 CAPLUS  
DN 83:30317  
ED Entered STN: 12 May 1984  
TI Surfactant  
IN Sasaki, Yasuhide; Shimizu, Hisashi  
PA Sanyo Chemical Industries Ltd., Japan  
SO Jpn. Tokkyo Koho, 7 pp.  
CODEN: JAXXAD  
DT Patent  
LA Japanese  
IC C07D; D06M; C08K; C09K  
CC 46-3 (Surface Active Agents and Detergents)  
Section cross-reference(s): 28

## FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 49048320	B4	19741220	JP 1968-34186	19680520
PRAI JP 1968-34186		19680520		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 49048320	IC	C07D; D06M; C08K; C09K IPCI C07D [ICM]; D06M [ICS]; C08K [ICS]; C09K [ICS]
AB	Tris(2-carboxyethyl) isocyanurate (I) [2904-41-8] was condensed with an amine, such as N-methyl-N-octadecyl-1,2-ethanediamine (II) [55525-30-9] to prepare amides useful as emulsifiers, dispersants, etc. Thus, 345 g I and 326 g II were heated at 160° for 3 hr to give 650 g amide.	
ST	carboxyethyl isocyanurate amide surfactant	
IT	Amides, preparation RL: PREP (Preparation) (from tris(carboxyethyl) isocyanurate, surfactants)	
IT	Surfactants (tris(carboxyethyl) isocyanate-amine reaction products)	
IT	2904-41-8D, 1,3,5-Triazine-1,3,5(2H,4H,6H)-tripropanoic acid, 2,4,6-trioxo-, reaction products with amines 55525-30-9D, 1,2-Ethanediamine, N-methyl-N-octadecyl-, reaction products with tris(carboxyethyl) isocyanurate RL: TEM (Technical or engineered material use); USES (Uses) (surfactants)	

L7 ANSWER 26 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:87550 CAPLUS

DN 82:87550

ED Entered STN: 12 May 1984

TI Improved method for preparing modified poly(ethylene terephthalate)

PA Montecatini Edison S.p.A.

SO Ital., 20 pp.

CODEN: ITXXAX

DT Patent

LA Italian

IC C08F

CC 39-2 (Textiles)

## FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI IT 878614		19701102	IT	19691128

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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IT 878614	IC	C08F IPCI C08F
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AB The pilling resistance of polyester fibers was improved by manufacture of fibers from poly(ethylene terephthalate)(I) with an increased melt viscosity and by modification of the I, in the polycondensation stage, with 0.1-1.3 moles/100 mole I tris(2-hydroxyethyl)isocyanurate [839-90-7], trimethyl tris(2-carboxyethyl) isocyanurate [13285-39-7], or tris(2-carboxyethyl)isocyanurate [2904-41-8].

ST pilling resistance polyester fiber; isocyanurate modification polyester fiber

IT Polyester fibers

RL: USES (Uses)  
(pilling-resistant, isocyanurate-modified)

IT 839-90-7 2904-41-8 13285-39-7

RL: USES (Uses)  
(polyester fiber modified by, for improved pilling resistance)

L7 ANSWER 27 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1974:414659 CAPLUS  
 DN 81:14659  
 ED Entered STN: 12 May 1984  
 TI Recurable crosslinked cellulosic fabrics from methylol reagents and polycarboxylic acids  
 IN Franklin, William E.; Rowland, Stanley P.  
 PA United States Dept. of Agriculture  
 SO U.S., 3 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC D06M  
 INCL 008181000  
 CC 39-10 (Textiles)  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3776692	A	19731204	US 1972-248200	19720427
	US 3854866	A	19741217	US 1972-298167	19721016
PRAI	US 1972-248200	A2	19720427		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3776692	IC	D06M
	INCL	008181000
	IPCI	D06M0015-56; D06M0013-20; D06M0013-14
	NCL	008/181.000; 008/115.700; 008/116.400; 008/120.000; 008/182.000; 008/183.000; 008/184.000; 008/185.000; 008/186.000; 008/187.000; 536/099.000
US 3854866	IPCI	D06M0001-00
	IPCR	D06M0015-37 [I,C*]; D06M0015-423 [I,A]
	NCL	008/182.000; 008/183.000; 008/185.000; 008/186.000

AB Treatment of cotton fabric with 25-50% methylol crosslinking agent, e.g., dimethyloldihydroxyethyleneurea (I) [1854-26-8] and 3-12% polycarboxylic acid, and heat treatment of the fabric, cured at 160.deg., at 130-205.deg., gave recyclable durable press fabrics. Cotton fabric (7.6 oz/yd<sup>2</sup>), treated (70% pickup) with a mixt containing I 12, cyclopentanetetracarboxylic acid [51365-15-2] 6, emulsified polyethylene softener 2, and nonionic wetting agent 0.1%, had conditioned wrinkle recovery angle (ASTM B 1295-67) 306.deg. and wet wrinkle recovery angle 276.deg., Stoll flex abrasion resistance (warp direction) 30% of unmodified laundered cotton fabric, tear 50% of unmodified control fabric, after heating 8 min at 160.deg.. A similarly treated fabric had crease retention rating (AATCC 88C-1969) 4.3 after heating a folded fabric 5 min at 160.deg. and washing 5 times. Cotton fabric treated with a similar mixture containing 3% tetrahydrofurantriacarboxylic acid [51365-16-3] had conditioned wrinkle recovery angle 302.deg. and crease retention rating 4.1.

ST recurring cotton fabric; crease resistance cotton textile; durable press finishing cotton; methylolhydroxyethyleneurea crosslinking cotton; cyclopentanecarboxylic acid crosslinking cotton; nitriloacetic acid crosslinking cotton; tetrahydrofurantriacarboxylic acid crosslinking cotton; mellitic acid crosslinking cotton; benzophenonecarboxylic acid crosslinking cotton; formaldehyde crosslinking cotton; methylolpropyleneurea crosslinking cotton; methoxymethylurea crosslinking cotton; melamine crosslinking cotton; methylolmethylcarbamate crosslinking cotton

IT Textiles  
 (durable-press recyclable cotton, methylol crosslinking agents and polycarboxylic acid catalysts for)

IT Creasing  
 (durable-press, of cotton textiles, by methylol crosslinking agents and polycarboxylic acid catalysts)

IT Crosslinking agents  
 (methylol compds., for cotton textiles)

IT Creaseproofing  
(of cotton textiles, by methylol crosslinking agents and polycarboxylic acid catalysts)  
IT Carboxylic acids, uses and miscellaneous  
RL: USES (Uses)  
(poly-, catalysts, for methylol crosslinking agents, in recurable durable-press cotton textile manufacture)  
IT Crosslinking catalysts  
(polycarboxylic acids, for cotton textiles)  
IT 50-00-0, uses and miscellaneous 136-84-5 531-18-0D, Methanol,  
(1,3,5-triazine-2,4,6-triyltrinitrilo)hexakis-, highly methylated  
1017-56-7D, Methanol, (1,3,5-triazine-2,4,6-triyltriamino)tris-, partially  
methylated 1854-26-8 2492-96-8 7388-44-5 13822-64-5 19708-68-0  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, for recurable durable-press cotton textiles)  
IT 60-00-4, uses and miscellaneous 139-13-9 517-60-2 2479-49-4  
2904-41-8 3724-52-5 26106-63-8  
RL: CAT (Catalyst use); USES (Uses)  
(crosslinking catalysts, for methylol crosslinking agents, in recurable durable-press cotton textile manufacture)

L7 ANSWER 28 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1973:44205 CAPLUS

DN 78:44205

ED Entered STN: 12 May 1984

TI Pyrolysis of tris(2-carboxyethyl)isocyanurate

IN Little, Edwin D.

PA Allied Chemical Corp.

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

IC C07C

INCL 260486000R

CC 35-2 (Synthetic High Polymers)  
Section cross-reference(s): 23

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3697584	A	19721010	US 1969-885649	19691216
PRAI	US 1969-885649	A	19691216		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US	3697584	IC	C07C
		INCL	260486000R
		IPCI	C07C0057-04; C07C0057-00 [C*]; C07C0069-54; C07C0069-00 [C*]
		NCL	560/211.000; 544/192.000; 544/221.000; 560/130.000; 562/599.000; 562/856.000; 562/887.000; 564/204.000; 564/207.000

AB Acrylic acid (I) [79-10-7] and Et acrylate (II) [140-88-5] were prepared by pyrolysis of the title compound (III) and its tri-Et ester, resp. Thus, 17 g III was heated at 200.deg. under reduced pressure to give 71.5% I and cyanuric acid. Similarly, II was prepared in 96% yield and 50% conversion.

ST acrylic acid manuf; ethyl acrylate manuf; isocyanurate carboxyethyl pyrolysis

IT 79-10-7P, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of, by carboxyethyl isocyanurate pyrolysis)

IT 140-88-5P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of, by pyrolysis of carbethoxyethyl isocyanurate)

IT 20191-55-3P

RL: PREP (Preparation)

IT (preparation of)  
2904-39-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(pyrolysis of)

IT 2904-41-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(pyrolysis of, in acrylic acid manufacture)

L7 ANSWER 29 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1973:35762 CAPLUS  
DN 78:35762  
ED Entered STN: 12 May 1984  
TI Infrared and Raman spectra of di- and trisubstituted isocyanuric acid  
AU Vorotyntseva, V. D.; Roginskaya, Ts. N.; Moleva, V. P.; Tikhonova, T. N.;  
Finkel'shtein, A. I.; Zagranichnyi, V. I.  
CS USSR  
SO Zhurnal Prikladnoi Spektroskopii (1972), 17(4), 661-5  
CODEN: ZPSBAX; ISSN: 0514-7506  
DT Journal  
LA Russian  
CC 73-3 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance,  
and Other Optical Properties)  
AB The ir and Raman spectra of 1,3,5-triallyl-, 1,3-diallyl- (I),  
1,3,5-tris(2-cyanoethyl)-, 1,3,5-tris(2-carboxyethyl)-,  
1,3-di(2-cyanoethyl)- (II), 1,3-di(2-carboxyethyl)-, and  
1,3,5-tris(2-hydroxyethyl)isocyanurates were studied. The frequencies and  
assignments of the ir absorption and Raman bands are given. The very  
intense ir bands at 763-81 (A2'') and 1450-80 cm<sup>-1</sup> (E') as well as a very  
intense Raman band at 635-83 cm<sup>-1</sup> (A1') are most characteristic of the  
sym. triazine ring. The vsym (C:O) vibration manifests itself by the  
band at 1730-60 cm<sup>-1</sup>; for trisubstituted derivs. and II (D3h symmetry),  
this band was observed only in the Raman spectra, for I (C2v symmetry) also  
in the ir spectrum. The v(C:O) band at 1690-1720 cm<sup>-1</sup> (E') was not  
observed in the Raman spectra of tri- and disubstituted derivs.  
Characteristic bands of substituting groups appeared in the spectra  
without any signs of interaction.  
ST IR isocyanurate; Raman isocyanurate; isocyanurate spectra  
IT Infrared spectra  
Raman spectra  
(of isocyanuric acid di- and trisubstituted derivs.)  
IT 839-90-7 1025-15-6 2904-27-0 2904-28-1 2904-40-7 2904-41-8  
6294-79-7  
RL: PRP (Properties)  
(vibrational spectrum of)

L7 ANSWER 30 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1972:565970 CAPLUS  
DN 77:165970  
ED Entered STN: 12 May 1984  
TI Recurable durable-press fabrics. II. Recurability of fabrics treated  
with methylol reagents and polycarboxylic acids  
AU Franklin, W. E.; Madacsi, J. P.; Rowland, S. P.  
CS South. Reg. Res. Lab., New Orleans, LA, USA  
SO Textile Research Journal (1972), 42(9), 553-7  
CODEN: TRJOA9; ISSN: 0040-5175  
DT Journal  
LA English  
CC 39-10 (Textiles)  
AB A recurability test, consisting of a standard ironing to impart a crease,  
followed by laundering and visual rating of the remaining crease, was  
developed and applied to cotton fabrics which had been treated with  
combinations of a methylol crosslinking agent and a polycarboxylic acid;  
the fabrics were recurable to much greater extent than fabrics treated  
with a conventional metal-salt catalyst. The degree of recurability  
produced with the methylol and polycarboxylic acids was directly related

to the conditioned wrinkle-recovery angles of the fabrics. Fabrics treated with a combination of dimethyloldihydroxyethyleneurea [1854-26-8] and strong, highly soluble polycarboxylic acids had outstanding wrinkle-recovery angles and recurrability.

ST finishing cotton textile; recurrability test cotton; wrinkle recovery cotton; methylolethyleneurea wrinkle resistance textile; polycarboxylic acid textile finishing

IT Textiles  
(durable-press finishing of cotton, with hydroxymethyl crosslinking agents and polycarboxylic acids, recurrability in relation to)

IT Creasing  
(durable-press, of cotton fabrics with hydroxymethyl crosslinking agents and polycarboxylic acids, recurrability in relation to)

IT 60-00-4, uses and miscellaneous 77-92-9, uses and miscellaneous 128-97-2 139-13-9 517-60-2 2479-49-4 2904-41-8 3724-52-5 26106-63-8

RL: USES (Uses)  
(cotton textiles durable-press finished by hydroxymethyl compds. and, recurrability of)

IT 50-00-0, uses and miscellaneous 108-78-1D, 1,3,5-Triazine-2,4,6-triamine, hydroxymethyl derivs. 136-84-5 1017-56-7D, Methanol, (1,3,5-triazine-2,4,6-triyltriamino)tris-, methyl derivs. 1854-26-8 2492-96-8 4913-31-9 7388-44-5 13822-64-5 19708-68-0

RL: USES (Uses)  
(cotton textiles durable-press finished by polycarboxylic acid and, recurrability in relation to)

L7 ANSWER 31 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1972:34878 CAPLUS

DN 76:34878

ED Entered STN: 12 May 1984

TI Flameproofed unsaturated polymers

IN Tanaka, Hisao; Nakano, Fujio

PA Hitachi Chemical Co., Ltd.

SO Jpn. Tokkyo Koho, 4 pp.

CODEN: JAXXAD

DT Patent

LA Japanese

IC C08F; C08G

CC 36 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 46027554	B4	19710810	JP	19680223

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 46027554	IC	C08F; C08G
	IPCI	C08F; C08G

AB Fire-resistant polyesters are prepared from hexahydro-2,4,6-trioxo-s-triazine-1,3,5-tripropionic acid (I) [2904-41-8] and (pentachlorophenoxy)isopropanol (II) [33412-88-3]. Thus, 164 g maleic anhydride and 543 g II are heated to acid number 133, mixed with 193 g I and 127 g propylene glycol, and heated 15 hr at 170-80.deg. to give 900 g polyester, acid number 40.

ST polyester unsatd fire resistance; isocyanurate carboxyethyl polyester; triazinetripropionic acid polyester; isopropanol pentachlorophenoxy polyester

IT Polyesters, preparation

RL: PREP (Preparation)  
(hexahydrotrioxotriazinetripropionic acid-maleic acid-(pentachlorophenoxy)isopropanol-propanediol, fire-resistant)

IT Fire-resistant materials  
(polyesters containing hexahydrotrioxotriazinetripropionic acid and (pentachlorophenoxy)isopropanol)

IT 36609-21-9P  
 RL: PREP (Preparation)  
 (fire-resistant, manufacture of)

L7 ANSWER 32 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1970:43745 CAPLUS  
 DN 72:43745  
 ED Entered STN: 12 May 1984  
 TI N-Substituted isocyanurates  
 IN Sadle, Alexander  
 SO U.S., 3 pp.  
 CODEN: USXXAM

DT Patent  
 LA English  
 IC C07D  
 INCL 260248000  
 CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3485833	A	19691223	US 1969-804680	19690305
PRAI US 1969-804680	A	19690305		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3485833	IC C07D INCL 260248000 IPCI C07D0055-38 NCL 544/221.000; 528/367.000; 528/368.000	

GI For diagram(s), see printed CA Issue.  
 AB Cyanuric acid (I) was treated with a molar excess of acrylonitrile (II) to form tris( $\beta$ -cyanoethyl) isocyanurate (III), which was then converted to tris( $\beta$ -carboxyethyl) isocyanurate (IV), useful in the production of polyester resins. Thus, 159 parts II was added to 129 parts I in 36 volume parts 28% aqueous  $M\text{e}3(\text{PhCH}_2)\text{NOH}$  and 750 volume parts  $\text{HCONMe}_2$ . The resulting mixture was refluxed 1.5 hr to yield 95.4 parts III, m. 228-30°. A mixture of 15 parts III and 150 parts 28% aqueous  $\text{HCl}$  was refluxed 4 hr to yield 17.9 parts IV, m. 228-9°.  
 ST isocyanurates carboxyethyl; carboxyethyl isocyanurates; polyester resins isocyanurates; acrylonitrile reaction cyanuric acid; cyanuric acid acrylonitrile reaction  
 IT 1,6-Hexanediol, polymer with methylphenylene isocyanate and triethyl 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionate Isocyanic acid, methylphenylene ester, polymer with 1,6-hexanediol and triethyl 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionate s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo-, triethyl ester, polymer with 1,6-hexanediol and methylphenylene isocyanate  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 2904-28-1P 2904-39-4P 2904-41-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L7 ANSWER 33 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1969:481435 CAPLUS  
 DN 71:81435  
 ED Entered STN: 12 May 1984  
 TI Bis( $\beta$ -carboalkoxyethyl) isocyanurate  
 IN Ouchi, Hajime; Motooka, Hiroshi; Kobayashi, Kenzo  
 PA Seitetsu Chemical Industry Co., Ltd.  
 SO Jpn. Tokkyo Koho, 3 pp.  
 CODEN: JAXXAD

DT Patent  
 LA Japanese  
 INCL 16E473

CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 44010273	B4	19690513	JP	19661004

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 44010273	INCL	16E473

AB An improvement in the manufacture of the title compound by the reaction of isocyanuric acid with alkyl acrylates, followed by distillation in vacuo, is described.

ST carbalkoxyethyl isocyanurates; isocyanurates carbalkoxyethyl; triazine triones; triones triazine

IT 2904-41-8DP, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo-, alkyl esters

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

L7 ANSWER 34 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:473592 CAPLUS

DN 67:73592

ED Entered STN: 12 May 1984

TI Isocyanuric acid and its derivatives

AU Shiba, Kazuo

SO Japan Chemical Quarterly (1967), 3(3), 19-23

CODEN: JCHQAS; ISSN: 0448-8571

DT Journal

LA English

CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))

AB The preparation and use of isocyanuric acid, chlorinated isocyanurates, tris(2-hydroxyethyl) isocyanurate, and tris(2-carboxyethyl) isocyanurate as wool shrink-resistant agents, reforming agents, and raw materials for polyesters and alkyd resins, bleaches, and other synthetic fiber additives is discussed. Structure, mol. weight, appearance, m.p., and solubility are given

for isocyanuric acid and its derivs.

ST ISOCYANURIC ACID DERIVS; TRIAZINETRIONES; WOOL SHRINK RESIST AGENTS; CHLORINATED ISOCYANURATES

IT 87-90-1P 108-80-5P 839-90-7P 2244-21-5P 2782-57-2P 2893-78-9P  
2904-41-8P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

L7 ANSWER 35 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:47415 CAPLUS

DN 66:47415

ED Entered STN: 12 May 1984

TI Melamine-aldehyde resin modified polyester reaction products

IN George, Norman J.; Kitun, Alexander

PA George, P. D., Co.

SO U.S., 11 pp.

CODEN: USXXAM

DT Patent

LA English

INCL 260850000

CC 42 (Coatings, Inks, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3297785		19670110	US 1963-312320	19630930

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3297785	INCL	260850000

IPCR C08G0018-00 [I,C\*]; C08G0018-46 [I,A]; C08G0063-00  
[I,C\*]; C08G0063-685 [I,A]; C08L0067-00 [I,A];  
C08L0067-00 [I,C\*]; H01B0003-30 [I,A]; H01B0003-30  
[I,C\*]  
NCL 428/383.000; 525/519.000; 525/520.000; 544/221.000;  
544/222.000

AB Economical polyester resins having improved mech., chemical, elec., and thermal properties are described. The resins are adaptable for use in surface coatings, laminates, films, and wire enamels, e.g., insulation for elec. conductors, and slot insulation in elec. apparatus. The polyester resins are prepared from isocyanuric derivs. (I). The polyesters may be derivs. of polycarboxylic acids, glycols, or polyols, cross-linked with conventional curing or modifying agents with or without metal catalysts, and prepared from fatty acids and (or) oils. The resins prepared from a phthalic acid or ester (II), especially orthophthalic and terephthalic esters, ethylene glycol (III), and tris(hydroxyethyl) isocyanurate (IV). Cresylic acid (V) may also be used during esterification. A superior product is obtained by transesterifying II with IV prior to esterifying its product with III in the presence of V. Thus, di-Me phthalate (VI) 43.45, III 27.55, and IV 29.0% were heated to 300°F. under CO<sub>2</sub>, 0.1% PbO esterification catalyst added, and the mixture heated 6 hrs. as alc. was distilled and the temperature rose to 430°F., resulting in a resin with 31% viscosity. Another resin was prepared as above until 37% viscosity was reached, V added to yield a solution having 70% solids, and esterification continued at 430°F. until 34% viscosity was reached. A third polyester resin was prepared by a 2-step process in which 43.35% VI and 29.10% IV were heated to 300°F. under CO<sub>2</sub>, 0.1% PbO added, the mixture heated 8 hrs., distilling alc. as 400°F. and 37% viscosity were obtained and 27.55% III was added during 1 hr., and esterification continued until the product had 31% viscosity. A fourth resin was prepared in the same way until a viscosity of 37% was reached, V added to yield a solution having 70% solids, and the esterification continued at 425°F. until 34% viscosity was reached. The resins were then applied and cured by standard methods. Sometimes a curing catalyst, e.g., Zn octoate, Cd octoate, Cu naphthenate, or aromatic diisocyanates, was employed when the resin was applied to conductors. The wire enamels were tested by the following tests: Mil cut through temperature; % elongation; 25% elongation + 1X-flexibility; Scott twist; dielec. strength, twisted pair; Emerson scrape; CHCl<sub>3</sub> resistance; and 50:50 solvent resistance. The insulated wires were further improved by applying an overcoat of a highly linear thermoplastic polymer (VII) m.>175°, relative viscosity >1.3, tensile strength ≥30,000 psi. at 175°, and thermal life ≥4,000 hrs. at 200°. This layer prevents heat shock in the underlying layer and enhances the phys. and chemical properties of the finished wire. Thus, 125 parts Number 54 was dissolved in 875 parts o-cresol and p-chlorophenol (4:1 by weight) at 80-90°, 10 parts xylene added, vacuum applied to remove sylene and water, the mixture heated 30 min. to 110-20°, and the mixture cooled to <60°, resulting in a coatable solution, viscosity 195-200 cps., solids content 12.5%, and weight

8.90 lb./gal. VII can also be blended into the polyesters containing I, and this blend may be cured as a wire enamel.

ST WIRE ENAMELS POLY ISOCYANURATES; ENAMELS WIRE POLY ISOCYANURATES; POLY ISOCYANURATES WIRE ENAMELS; ISOCYANURATES POLY WIRE ENAMELS

IT Electric coils  
(elec. insulators for, from isocyanuric acid derivative-containing polyesters  
and melamine-aldehyde resins)

IT Polyesters, preparation  
RL: PREP (Preparation)  
(from isocyanuric acid derivs.)

IT Electric insulators  
(from isocyanuric acid derivs.-containing polyesters modified with  
melamine-aldehyde resins)

IT 839-90-7 2904-41-8

RL: USES (Uses)  
(polyesters modified by, elec. insulators and coatings from  
melamine-aldehyde resins and)

IT 100-21-0, Terephthalic acid 121-91-5, Isophthalic acid

RL: USES (Uses)  
(polyesters with glycols and tris(2-hydroxyethyl)-s-triazine-  
2,4,6(1H,3H,5H)-trione)

L7 ANSWER 36 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1967:3930 CAPLUS  
DN 66:3930  
ED Entered STN: 12 May 1984  
TI Coating compositions for polyethylene and polypropylene containers  
IN Francis, William C.; Hill, Robert William; Jones, Joseph William, Jr.  
PA Gulf Oil Corp.  
SO U.S., 3 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
INCL 117094000  
CC 42 (Coatings, Inks, and Related Products)  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3279940		19661018	US 1963-280077	19630513

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3279940	INCL	117094000
	IPCR	C08G0063-00 [I,C*]; C08G0063-685 [I,A]; C08G0063-91 [I,A]; C08J0007-00 [I,C*]; C08J0007-04 [I,A]; C09D0167-00 [I,A]; C09D0167-00 [I,C*]
	NCL	428/483.000; 215/012.200; 525/443.000; 525/448.000; 528/289.000; 528/296.000; 544/221.000

AB Coating compns. for the title polymers are described. Thus, a mixture of 414 g. 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid (I) and 292 g. neopentyl glycol (II) was heated at 120° for 2 hrs. and 68.5 g. adipic acid (III) was added and heated at 120-5° for 6 hrs. and at 145-50° for 3 hrs. to give a polyester resin with acid number 50-5. The resin was soluble in NH4OH. The polyester resins were similarly prepared from (1) 104 g. I, 53.3 g. 1,2-propanediol, and 14.6 g. III; (2) 104 g. I, 62.4 g. II, 16.4 g. III, 13.6 g. pentaerythritol, and 28 g. tall oil fatty acid (resin A); and (3) 690 g. I and 485 g. II (resin B). A 31.5% solution of 7:3 resin B-hexamethoxymethylolamine in water was brush-coated on a dark-blue pigmented linear polyethylene bottle and cured at 250°F. for 30 min. The resulting film had good adhesion, high gloss, and antistatic properties. Resin A had better barrier properties than resin B for xylene or CC14. The resins prepared are useful as decorative coatings on toys, housewares, automotive parts, and elec. parts.

ST TRIAZINES COATINGS; POLYETHYLENE CONTAINERS COATINGS; POLYPROPYLENE CONTAINERS COATINGS; PLASTIC CONTAINERS COATINGS; COATINGS PLASTIC CONTAINERS

IT Crosslinking  
(of polyesters by hexamethoxymethylmelamine)

IT Coating materials  
(polyesters, on ethylene or propene polymer containers)

IT Fatty acids, polymers

RL: USES (Uses)  
(tall oil, polyesters with adipic acid, pentaerythritol, neopentyl glycol and 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid)

IT 29385-62-4 29385-73-7  
RL: USES (Uses)  
(coatings of, on ethylene polymers or propene polymers)

IT 9002-88-4, uses and miscellaneous 9003-07-0, uses and miscellaneous  
RL: USES (Uses)

(coatings on, from polyesters)

IT 3089-11-0

RL: USES (Uses)  
(polyesters crosslinked by)

IT 115-77-5, Pentaerythritol

RL: USES (Uses)  
(polyesters with adipic acid, neopentyl alc., 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid and tall oil fatty acids)

IT 2904-41-8

RL: USES (Uses)  
(polyesters with adipic acid, pentaerythritol, neopentyl glycol and tall oil fatty acids)

IT 126-30-7

RL: USES (Uses)  
(polyesters with adipic acid, pentaerythritol, tall oil fatty acids and 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid)

IT 124-04-9, Adipic acid'

RL: USES (Uses)  
(polyesters with pentaerythritol, neopentyl glycol, 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid and tall oil fatty acids)

L7 ANSWER 37 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1966:457806 CAPLUS

DN 65:57806

OREF 65:10810d-f

ED Entered STN: 22 Apr 2001

## TI Enamel for coating copper wire

PA Cella-Lackfabrik Dr. C. Schleussner G.m.b.H.

SO 10 pp.

DT Patent

LA Unavailable

CC 52 (Coatings, Inks, and Related Products)

FAN, CNT 1

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

PI BE 669093

19651231

PRAI DE

19650629

**CLASS**

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

AB Enamel for coating Cu wire for continuous use at 180° is prepared by reaction of an isocyanatemodified polyester, (I) and the condensation product (II) of an ester of triethylene glycol and trimellitic anhydride with an aromatic diamine. For example, I is esterified by heating to 170° a mixture of 194 g. di-Me terephthalate, 170 g. tris(2-carboxyethyl) isocyanurate, 186 g. ethylene glycol, and 1 g. Li naphthenate until the acid number is <50. Then 300 g. II is added and the reaction continued at 220° until the resin obtained has a viscosity of 2500 cp. in a 35% solution in cresol. II is prepared by esterifying 192 g. trimellitic anhydride and 186 g. ethylene glycol at 170° until the acid number is <50. Then 150 g. bis(aminophenyl)methane is added and the temperature raised to 200°. The wire enamel is prepared by dissolving 35 g. resin in 45 g. cresol and 19 g. solvent naphtha with addition of 1 g. Bu titanate. The enamel is applied to 0.6-mm. Cu wire in multiple coats while moving at 8 m./min. The curing temperature is 420°. A top coat consisting of condensation product of di-Me terephthalate, p-hydroxybenzoic acid, and ethylene glycol may be applied from a 10% solution in 2 passes to a base coat obtained in 5 passes to improve the surface uniformity of the enameled wire.

## IT      Amines

(catalysts from tertiary, in amine reaction with anhydrides in phenolic solvents)

## IT Insulators, electric

(from isocyanurate-modified terephthalic acid polyesters and

triethylene glycol polyesters with trimellitic anhydride modified with aromatic diamines)

IT Amine  
     (triethylene glycol-trimellitic anhydride polyesters modified by, elec. insulators from)

IT Triethylene glycol, polyester with trimellitic acid (modified with amines, elec. insulators containing)

IT 100-21-0, Terephthalic acid (polyesters, isocyanurate-modified, elec. insulators containing)

IT 839-90-7, s-Triazine-2,4,6(1H,3H,5H)-trione, tris(2-hydroxyethyl)-2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo- (terephthalic acid polyesters modified by, elec. insulators containing)

IT 80-08-0, Aniline, 4,4'-sulfonyldi- (triethylene glycol-1,2,4-benzenetricarboxylic anhydride polyesters modified by, elec. insulators from)

IT 101-77-9, Aniline, 4,4'-methylenedi- 101-80-4, Aniline, 4,4'-oxydi-2479-47-2, Aniline, 4,4'-isopropylidenedi- (triethylene glycol-trimellitic anhydride polyesters modified by, elec. insulators from)

L7 ANSWER 38 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1966:59957 CAPLUS

DN 64:59957

OREF 64:11230e-g

ED Entered STN: 22 Apr 2001

TI NN-( $\beta$ -Carboxyethyl)isocyanurates

IN Sadle, Alexander

PA Allied Chemical Corp.

SO 3 pp.

DT Patent

LA Unavailable

INCL 260248000

CC 38 (Heterocyclic Compounds (More Than One Hetero Atom))

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3235553 GB 1032978		19660215	US 1959-814671 GB	19590521

PRAI US 19590521

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3235553	INCL IPCR NCL	260248000 C08G0018-00 [I,C*]; C08G0018-46 [I,A]; C08G0063-00 [I,C*]; C08G0063-685 [I,A]; C08G0069-00 [I,C*]; C08G0069-26 [I,A] 544/222.000; 521/172.000; 528/083.000; 528/288.000; 528/292.000

GI For diagram(s), see printed CA Issue.

AB Compds. of the general formula I are prepared Thus, 129 parts cyanuric acid is added to a solution of 36 parts 38% aqueous Me3(PhCH2)N+OH- in 750 parts HCONMe2, 159 parts CH2:CHCN is added in 1 hr., and the mixture refluxed 2.5 hrs. to give 95.4 parts tris( $\beta$ -cyanoethyl)isocyanurate (II), m. 228-30°. Similarly prepared is I (R = CN, R1 = H), m. 213-14° (EtOH). A mixture of 15 parts II and 150 parts 28% HCl is refluxed 4 hrs. to give 17.9 parts tris( $\beta$ -carboxyethyl)isocyanurate (III), m. 228-9° (H2O). Similarly prepared is I (R = CO2H, R1 = H), m. 287-9° (H2O). A mixture of 34.5 parts III and 200 parts 5N HCl (EtOH) is refluxed 2 hrs. to give 40 parts I (R = CO2Et, R1 = CH2CH2CO2Et) (IV), m. 50-2° (EtOH). A mixture of 1 mole IV and 9 moles HO(CH2)6OH is heated 7 hrs. at 180-200° in the presence of 0.1 weight-% Sb2O3 to give a polyester; 50 parts polyester is mixed with 17 parts MeC6H3(NCO)2 and a solution containing 1 part N-methylmorpholine, 2 parts water, and 1 part detergent is added to give a foam.

IT 875217-78-0, s-Triazine-1(2H)-propionic acid, tetrahydro-4,6-dioxo-(derivs.)  
IT 2904-27-0, s-Triazine-1,3(2H,4H)-dipropionitrile, dihydro-2,4,6-trioxo-  
2904-28-1, s-Triazine-1,3,5(2H,4H,6H)-tripropionitrile, 2,4,6-trioxo-  
2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid,  
2,4,6-trioxo-(preparation of)

L7 ANSWER 39 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1966:20274 CAPLUS

DN 64:20274

OREF 64:3789a-c

ED Entered STN: 22 Apr 2001

TI Coating for polyolefins

PA Chemical Investors, S.A.

SO 5 pp.

DT Patent

LA Unavailable

IC B29F

CC 48 (Plastics Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1009216		19651110	GB	
PRAI	US		19630513		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
GB 1009216	IC	B29F
	IPCI	B29F

AB The polymer is coated with a polyester reaction product of 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-trialkanoic acid and a polyhydric alc. or its mixture with a dicarboxylic acid. An excess of OH over CO<sub>2</sub>H groups is required and the reaction is carried to the point where a viscous resin results. This can be modified by addition of other reactive resins to promote cure. A convenient vehicle for the coating solution is NH<sub>4</sub>OH. Thus, 690 g. 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid, 485 g. neopentyl glycol, and 97.2 g. adipic acid were heated for 6.5 hrs. at 145-50° to an acid number of 53.5 and diluted with 110 ml. 28% NH<sub>4</sub>OH in 1630 ml. H<sub>2</sub>O to a solids content of 41%. A solution containing 31.5% solids of which 70% was from the above and 30% was hexakis(methoxymethyl)melamine was brush-coated on polyethylene bottles and cured for 31 min. at 121°. The film had good adhesion, antistatic properties, and high gloss. Such coated bottles are much more resistant to penetration and migration of solvents, e.g. EtOH, turpentine, xylene, ketones, AcOH, and CCl<sub>4</sub>, than are uncoated ones.

IT Coating(s)  
(for olefin polymers, from trioxo-s-triazinetripropionic acid polyesters)

IT Bottles  
(from ethylene polymers, coated with trioxo-s-triazinetripropionic acid polyesters)

IT Olefins  
(polymers, coatings for, from trioxo-s-triazinetripropionic acid polyesters)

IT Electric charge  
(prevention of, on olefin polymers by trioxo-s-triazinetripropionic acid polyester coatings)

IT Fatty acids  
(tall-oil, polyesters with adipic acid, polyhydric alcs. and trioxo-s-triazinetripropionic acid, coatings from, for olefin polymers)

IT Adipic acid (1,4-butanedicarboxylic acid, hexanedioic acid), polyesters with trioxo-s-triazinetripropionic acid and polyhydric alc.  
(coatings from, for olefin polymers)

IT 57-55-6, 1,2-Propanediol, polyesters of, with adipic acid and

trioxo-s-triazinetripropionic acid 126-30-7, 1,3-Propanediol,  
 2,2-dimethyl-, polyesters with adipic acid and trioxo-s-  
 triazinetripropionic acid  
 (coatings from, for olefin polymers)  
 IT 9003-07-0, Propene polymers  
 (coatings on, from trioxo-s-triazinetripropionic acid polyesters)  
 IT 9002-88-4, Ethylene polymers  
 (coatings on, from trioxo-s-triazinetripropionic acid polyesters with  
 adipic acid and polyhydric alcs.)  
 IT 2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid,  
 2,4,6-trioxo-, polyesters with adipic acid and polyhydric alcs.  
 (cured with hexakis(methoxymethyl)melamine, coatings from, for olefin  
 polymers)  
 IT 3089-11-0, Melamine, hexakis(methoxymethyl)-  
 (polyesters from adipic acid, polyhydric alcs. and trioxo-s-  
 triazinetripropionic acid cured by, coatings from)  
 IT 115-77-5, Pentaerythritol  
 (polyesters, with adipic acid, glycols and trioxo-s-  
 triazinetripropionic acid, coatings from, for olefin polymers)

L7 ANSWER 40 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1965:454727 CAPLUS  
 DN 63:54727  
 OREF 63:9970b-d  
 ED Entered STN: 22 Apr 2001  
 TI N-Substituted isocyanurates and their use for the preparation of synthetic  
 resins  
 PA Allied Chemical Corp.  
 SO 15pp.  
 DT Patent  
 LA Unavailable  
 IC C07D; C08G  
 CC 38 (Heterocyclic Compounds (More Than One Hetero Atom))  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 1395603		19650416	FR 1963-957341	19631216

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 1395603	IC	C07D; C08G
	IPCI	C07D; C08G
	IPCR	C08G0018-00 [I,C*]; C08G0018-46 [I,A]; C08G0063-00 [I,C*]; C08G0063-685 [I,A]; C08G0069-00 [I,C*]; C08G0069-26 [I,A]

AB Substituted isocyanuric acids, in which 1-3 N atoms carried CH<sub>2</sub>CH<sub>2</sub>CN,  
 CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H, or CO<sub>2</sub>R substituents, (R was an alkyl), were prepared. The  
 compds. prepared were tris( $\beta$ -cyanoethyl) isocyanurate (I), m.  
 228-30°, bis( $\beta$ -cyanoethyl) isocyanurate (II), m.  
 213-14°, tris( $\beta$ -carboxyethyl) isocyanurate (III), m.  
 228-9° bis( $\beta$ -carboxyethyl) isocyanurate (IV), m.  
 287-9°, and tris( $\beta$ -carbethoxyethyl) isocyanurate (V), m.  
 50-2°. Thus, 129 g. cyanuric acid was added, to a solution of 36 ml.  
 38% [Me<sub>3</sub>(PhCH<sub>2</sub>)-N]OH in 750 ml. HCONMe<sub>2</sub> and 159 g. CH<sub>2</sub>CH<sub>2</sub>CN was added at  
 room temperature in 1 hr. The mixture was heated at 120-30° for 1 hr. and  
 at reflux 1.5 hrs. to give 95.4 g. I, m. 228-30°. Evaporation of the  
 solvent from the mother liquor of crude I at 2050 mm. yielded 159.2 g.  
 crude II. I was hydrolyzed with 10 parts 28% aqueous HCl to yield III.  
 Similarly, IV was prepared V was prepared by refluxing 34.5 g. I with 5N HCl  
 in 200 ml. EtOH for 2 hrs. A polyester (VI) was prepared by ester  
 interchange with a mixture of V and hexamethylene glycol. Tolylene  
 diisocyanate was treated with VI to prepare a rigid polyurethane foam. The  
 N-substituted isocyanurates may be used as the intermediates to prepare  
 resinous polyesters, polyamides, or polyurethanes.  
 IT 108-80-5, s-Triazine-2,4,6(1H,3H,5H)-trione

IT (derivs., resins from)  
2904-39-4, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo-,  
triethyl ester 2904-40-7, s-Triazine-1,3(2H,4H)-dipropionic acid,  
dihydro-2,4,6-trioxo- 2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-  
tripropionic acid, 2,4,6-trioxo-  
(preparation of)

L7 ANSWER 41 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1965:454726 CAPLUS

DN 63:54726

OREF 63:9969g-h,9970a-b

ED Entered STN: 22 Apr 2001

TI 2,4-Dichloro-6-(dialkylhydroxyanilino)-1,3,5-triazines

IN Dexter, Martin; Knell, Martin; Roskin, Eric A.

PA Geigy Chemical Corp.

SO 3 pp.

DT Patent

LA Unavailable

INCL 260249500

CC 38 (Heterocyclic Compounds (More Than One Hetero Atom))

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3198797		19650803	US 1963-273539	19600803

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3198797	INCL	260249500
	IPCR	C08K0005-00 [I,C*]; C08K0005-3492 [I,A]; C09K0015-00 [I,C*]; C09K0015-30 [I,A]; C10M0133-00 [I,C*]; C10M0133-42 [I,A]; C10M0135-00 [I,C*]; C10M0135-32 [I,A]
	NCL	544/211.000; 044/336.000; 252/403.000; 508/257.000; 508/258.000; 524/100.000; 544/218.000; 554/005.000; 568/421.000; 585/002.000; 585/005.000; 585/010.000; 585/013.000; 585/014.000

AB The title compounds were prepared by treatment of cyanuric chloride (I) with RNH<sub>2</sub> (R = dialkylhydroxyphenyl). Thus, 750 ml. EtOH was saturated with HCl, diluted with 4 l. EtOH, and used to dissolve 824 g. 2,6-di-tert-butylphenol. A solution of 304 g. NaNO<sub>2</sub> in 400 ml. H<sub>2</sub>O was added at 15-20° over 1 hr., stirring continued 2 hrs. at room temperature, 2 l. H<sub>2</sub>O added, the precipitate

collected, washed with H<sub>2</sub>O, suspended in 3 l. petroleum ether, refiltered, and washed with 1 l. petroleum ether to give 848 g. 4-nitroso-2,6-di-tert-butylphenol, (II), m. 219°. A solution of 522 g. Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub> in 2.2 l. H<sub>2</sub>O was added to a stirred solution of 176 g. II in 600 ml. 5N NaOH and 1.2 l. H<sub>2</sub>O during 30 min., the temperature allowed to reach 53°, and stirring continued for 2.5 hrs. The precipitate was collected, washed with 4 l. H<sub>2</sub>O,

and

dried to give 162.3 g. 4amino-2,6-di-tert-butylphenol III, m. 105-8°. A solution of 18.4 g. I in 100 ml. hot Me<sub>2</sub>CO was poured into 200 ml. H<sub>2</sub>O at 0-5°, 22.1 g. III and 5.3 g. Na<sub>2</sub>CO<sub>3</sub> added, the mixture stirred 45 min. at 8-10° and diluted with 100 ml. Me<sub>2</sub>CO, and stirring continued 1 hr. at 8-10°. The mixture was poured into 500 ml. ice-water, and the precipitate collected and dried to give 34.8 g. 6-(4-hydroxy-3,5-di-tert-butylanilino)-2,4-dichloro-1,3,5-triazine, m. 144°. Similarly, treatment of I with 2,6-di-tert-butyl-1,4-hydroquinone gave 6-(4-hydroxy-3,5-di-tert-butylphenoxy)-2,4-dichloro-1,3,5-triazine, m. 103-4°. The products were stabilizers for polyolefins, gasolines, and lubricating, animal, and vegetable oils.

IT Phenol, [(4,6-dichloro-s-triazin-2-yl)amino]-  
(derivs.)

IT 108-80-5, s-Triazine-2,4,6(1H,3H,5H)-trione  
(derivs., resins from)

IT 950-58-3, Phenol, 4-amino-2,6-di-tert-butyl- 955-03-3, Phenol,

2,6-di-tert-butyl-4-nitroso- 976-09-0, Phenol, 2,6-di-tert-butyl-4-[(4,6-dichloro-s-triazin-2-yl)amino]- 976-10-3, Phenol, 2,6-di-tert-butyl-4-[(4,6-dichloro-s-triazin-2-yl)oxy]- 2904-27-0, s-Triazine-1,3(2H,4H)-dipropionitrile, dihydro-2,4,6-trioxo- 2904-28-1, s-Triazine-1,3,5(2H,4H,6H)-tripropionitrile, 2,4,6-trioxo- 2904-40-7, s-Triazine-1,3(2H,4H)-dipropionic acid, dihydro-2,4,6-trioxo- 2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo- 4801-02-9, Urea, 1,1',1'''-s-triazine-2,4,6-triyltri-(preparation of)

L7 ANSWER 42 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1965:432533 CAPLUS

DN 63:32533

OREF 63:5848b-e

ED Entered STN: 22 Apr 2001

TI Polyamides of isocyanurate compounds

IN Phillips, Lee V.; Francis, William C.

PA Gulf Oil Corp.

SO 3 pp.

DT Patent

LA Unavailable

INCL 260078000

CC 48 (Plastics Technology)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3184438		19650518	US 1961-144587	19611012
PRAI US		19611012		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3184438	INCL	260078000
	IPCR	C08G0063-00 [I,C*]; C08G0063-685 [I,A]; C08G0069-00 [I,C*]; C08G0069-26 [I,A]
	NCL	528/350.000; 528/288.000; 528/289.000; 528/341.000; 528/481.000; 544/221.000

AB Tris( $\beta$ -carboxylethyl) isocyanurate (I) is prepared by treating cyanuric acid(II) with acrylonitrile (III) under basic conditions to form tris( $\beta$ -cyanoethyl) isocyanurate (IV) which can be hydrolyzed under acidic conditions to give I. I is useful as an intermediate in reacting with organic diamines to form polyamides, or with polyhydric alcs. to form polyesters. The reaction is carried out under reflux at 50-200° in solvents such as HCONMe<sub>2</sub>. In preparing polyamides, the diamine salt of I is first made and then converted into polymers through the application of heat. A particularly useful diamine is hexamethylenediamine (V). In preparing polyesters, the polyhydric alc. may be partially reacted with a carboxy acid before reaction with I. Thus, a mixture of 0.155 mole of II, 0.93 mole of freshly distilled III, and 1.5 g. 40% benzyltrimethylammonium hydroxide was stirred and refluxed in 50 ml. HCONMe<sub>2</sub> for 38 hrs. The temperature rose from 90 to 105°. The mixture was cooled to room temperature

and

acidified with 4 ml. 3N HCl; it was then distilled under reduced pressure to remove excess III. The solid residue was slurried with 200 ml. boiling H<sub>2</sub>O and the slurry was cooled to room temperature and allowed to stand overnight

to give IV m. 223-4° (MeCN). IV (7 g.) was added to 55 ml. concentrated HCl and 10 ml. HOAc. The mixture was stirred at reflux for 5 hrs. The mixture was distilled under reduced pressure to leave a residue of 7.2 g. I, m. 224-6° (H<sub>2</sub>O). I (52 g.) was then dissolved in 250 ml. warm MeOH and to this was added 19 g. V in 150 ml. Me<sub>2</sub>CO. The salt precipitated and after

standing briefly was isolated by filtration and washed with Me<sub>2</sub>CO to give 58 g. salt m. 204-6° (MeOH-H<sub>2</sub>O). This salt was sealed in a pyrex tube under vacuum and heated for 30 min. at 230°. After cooling, the tube was opened and connected to a vacuum pump. The reaction product

was heated again at 180-90° for 4 hrs. The polymer was a hard, clear, glassy substance with a slight yellow color and a softening range of 85-100°.

- IT Polymerization  
(of 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid compds.  
with diamines)
- IT Esters  
(poly-, of 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid)
- IT Adipic acid (1,4-butanedicarboxylic acid, hexanedioic acid), polyester  
with 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid
- IT 110-91-8, Morpholine  
(polyamides from diamines and 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-  
tripropionic acid modified by)
- IT 57-55-6, 1,2-Propanediol, polyesters of, with adipic acid and  
2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid 2904-28-1,  
s-Triazine-1,3,5(2H,4H,6H)-tripropionitrile, 2,4,6-trioxo-  
2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid,  
2,4,6-trioxo-, polyamides and polyesters 3130-34-5, 1,6-Hexanediamine,  
compound with 2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid  
3130-35-6, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo-,  
compound with piperazine 3130-35-6, Piperazine, compound with  
2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid 3727-76-2,  
s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo-, compound with  
p-phenylenediamine 3727-76-2, p-Phenylenediamine, compound with  
2,4,6-trioxo-s-triazine-1,3,5(2H,4H,6H)-tripropionic acid 25101-03-5,  
Adipic acid, polyester with 1,2-propanediol  
(preparation of)

L7 ANSWER 43 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1963:27653 CAPLUS

DN 58:27653

OREF 58:4663d-f

ED Entered STN: 22 Apr 2001

TI Tris( $\beta$ -carboxyethyl) isocyanurate and its polyamides and polyesters

PA Spencer Chemical Co.

SO 4 pp.

DT Patent

LA Unavailable

CC 45 (Synthetic High Polymers)

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 912563		19621212	GB 1961-3182	19610127
PRAI US		19600203		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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GB 912563	IPCR	C08G0063-00 [I,C*]; C08G0063-685 [I,A]; C08G0069-00 [I,C*]; C08G0069-26 [I,A]
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AB Cyanuric acid is treated with CH<sub>2</sub>:CHCN to give tris( $\beta$ -cyanoethyl) isocyanurate (I) which is hydrolyzed to tris( $\beta$ -carboxyethyl) isocyanurate (II). Polyamides are obtained by heating polymethylenediamine salts of II, and polyesters by the condensation of II either with polyhydric alcs. or partially esterified polyhydric alcs. or a mixture of a carboxy acid and a polyhydric alc. Thus, a mixture of 2 g. (HNCO)<sub>3</sub>, 49.3 g. freshly distilled CH<sub>2</sub>:CHCN and 1.5 g. Triton B was refluxed in 50 ml. HCONMe<sub>2</sub> for 38 hrs., cooled to room temperature, and acidified with 4 ml. of 3N HCl. The solvent was distilled in vacuo, 200 ml. boiling H<sub>2</sub>O was added to the residue, which was kept overnight at room temperature, giving a crude precipitate of 41.9 g. I, m. 224-5° (MeCN). 1(7 g.), 55 ml. concentrated HCl, and 10 ml. AcOH were refluxed for 5 hrs. and distilled in vacuo to give 87% II, m. 226-7° (H<sub>2</sub>O). H<sub>2</sub>N(CH<sub>2</sub>)<sub>6</sub>NH<sub>2</sub> (19 g.) in 150 ml. Me<sub>2</sub>CO was added to a solution of 52 g. I in 250 ml. warm MeOH; the precipitate was filtered and washed with Me<sub>2</sub>CO to give the H<sub>2</sub>N(CH<sub>2</sub>)<sub>6</sub>-NH<sub>2</sub> salt of I (58 g.), m. 204-6° (MeOH-H<sub>2</sub>O). The salt was sealed in a tube in vacuo and

heated at 230° for 30 min. and cooled in dry ice; the tube was opened and heated again in vacuo for 4 hrs.. at 180-90° to give the yellowish, clear, glassy polyamide that softened at 85-100°. A mixture of 103.5 g. II, 14.1 g. HOOC-(CH<sub>2</sub>)<sub>4</sub>COOH and 53.4 g. MeCHOHCH<sub>2</sub>OH was stirred at 170-80° for 3 hrs. under N. The resulting clear, colorless, and resinous product had an acid number of 50 and softened at approx. 100°. The resin formed a clear, colorless film with Me<sub>2</sub>CO as a vehicle. It was baked for 25 min. at 200° and had a Sward hardness of 24.

IT Amides  
Esters

(poly-, from tris(β-carboxyethyl) isocyanurate)

IT 2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid,  
2,4,6-trioxo-

(manufacture of, and polyamides and polyesters therefrom)

IT 2904-28-1, s-Triazine-1,3,5(2H,4H,6H)-tripropionitrile, 2,4,6-trioxo-  
(preparation of)

L7 ANSWER 44 OF 44 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1961:81771 CAPLUS

DN 55:81771

OREF 55:15507i,15508a-g

ED Entered STN: 22 Apr 2001

TI Isocyanurates. I. Condensation reactions of cyanuric acid

AU Frazier, Thomas C.; Little, Edwin D.; Lloyd, Billy E.

CS Allied Chem. Corp., Hopewell, VA

SO Journal of Organic Chemistry (1960), 25, 1944-6

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

CC 10G (Organic Chemistry: Heterocyclic Compounds)

GI For diagram(s), see printed CA Issue.

AB New isocyanurates, RN.CO.R1N.CO.R2N.CO (I) with side chains R, R<sub>1</sub>, R<sub>2</sub> containing functional groups were synthesized by specific condensations of cyanuric acid (II) with ethylene oxide (III), H<sub>2</sub>C: CHCH<sub>2</sub>Cl (IV), ClCH<sub>2</sub>CO<sub>2</sub>Et (V), and H<sub>2</sub>C:CHCN (VI), resp. (H<sub>2</sub>N)<sub>2</sub>CO (3 kg.) heated 1 hr. above 300° and the product kept 1 hr. at 250°, the cooled powdered product (1900 g.) refluxed 2 hrs. with 54 l. 6N HNO<sub>3</sub> and the cooled mixture filtered gave 1600 g. material, recrystd. from H<sub>2</sub>O to give 99% pure II, neutralization equivalent 128.6. II (175 g.) and 3 g. NaOH stirred at 130° in 200 ml. HCONMe<sub>2</sub> with addition of 175 g. gaseous III at a rate maintaining the temperature at 135-40° (Me<sub>2</sub>CO-solid CO<sub>2</sub>-cooled condenser) and the filtered solution evaporated in vacuo gave 275 g. I (R = R<sub>1</sub> = R<sub>2</sub> = CH<sub>2</sub>CH<sub>2</sub>OH) (VII), m. 134-6° (MeOH), λ 5.93 μ (KBr), hydrolyzed in concentrated aqueous NaOH to give 3 moles CO<sub>2</sub> and HOCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>.

VII

(127 g.) heated slowly to 180° at 1-2 mm. yielded 114 g.

2-oxazolidone, m. 89-90° (CHCl<sub>3</sub>). II (65 g.) and 60 g. NaOH in 800 ml. H<sub>2</sub>O at 50° treated with 0.5 g. Cu<sub>2</sub>C<sub>12</sub> and 250 g. IV added dropwise in 15 min., the mixture kept at 50° and sufficient 50% NaOH added to maintain the pH at 10-10.5, extracted with C<sub>6</sub>H<sub>6</sub> and the product distilled yielded 86% I (R = R<sub>1</sub> = R<sub>2</sub> = H<sub>2</sub>C:CHCH<sub>2</sub>), b<sub>0.2-0.5</sub> 100-10°, m. 19-22°, n<sub>30D</sub> 1.5110, no CO infrared absorption, pyrolyzed in the presence of caustic to give H<sub>2</sub>C:CHCH<sub>2</sub>NCO and (H<sub>2</sub>C:CHCH<sub>2</sub>NH)<sub>2</sub>CO. The aqueous solution acidified to pH 1-2 with H<sub>2</sub>SO<sub>4</sub> gave 11.9% I (R = H, R<sub>1</sub> = R<sub>2</sub> = H<sub>2</sub>C:CHCH<sub>2</sub>), m. 143-5°. Trisodium cyanurate (65.0 g.) and 122.5 g. V autoclaved (stainless steel) 6 hrs. at 190-5° and the cooled product taken up in alc., the filtrate vacuum distilled and the product (78.0 g.) redistd. gave I (R = R<sub>1</sub> = R<sub>2</sub> = CH<sub>2</sub>CO<sub>2</sub>Et), m. 71-8° (alc.), saponified by refluxing in 5% NaOH to give (EtO<sub>2</sub>CCH<sub>2</sub>NH)<sub>2</sub>CO, m. 148-50° (alc.). II (43 g.) in 250 ml. HCONMe<sub>2</sub> containing 12 ml. Triton B treated dropwise with 53 g. VI in 1 hr., the slurry refluxed 2.5 hrs. at 120-30°, and the clear solution cooled precipitated 33% I (R = R<sub>1</sub> = R<sub>2</sub> = CH<sub>2</sub>CH<sub>2</sub>CN) (VIII), m. 228-30° (HCONMe<sub>2</sub>). The original HCONMe<sub>2</sub> solution evaporated in vacuo and the residue (56.4 g., m. 190-210°) recrystd.

from alc. gave I ( $R = H$ ,  $R1 = R2 = CH_2CH_2CN$ ) (IX), m. 216-18°.  
 VIII (15 g.) refluxed 4 hrs. with 150 ml. concentrated HCl yielded 99% I ( $R =$   
 R1  
 $= R2 = CH_2CH_2CO_2H$ ), m. 228-9° (H<sub>2</sub>O), of which 34.5 g. were refluxed  
 2 hrs. in 200 ml. 5N HCl in absolute alc. to give 40.0 g. I ( $R = R1 = R2 =$   
 $CH_2CH_2CO_2Et$ ), m. 50-2° (alc.). IX (7.9 g.) hydrolyzed yielded 99%  
 I ( $R = H$ ,  $R1 = R2 = CH_2CH_2CO_2H$ ), m. 287-9° (H<sub>2</sub>O). VIII (50 g.) and  
 61.3 g. anhydrous NH<sub>3</sub> heated with 17.1 g. Raney Ni 5 hrs. at  
 80-2°/1400 lb./sq. in. H with addition of addnl. H as the  
 hydrogenation proceeded, the cooled mixture taken up in absolute alc. and the  
 filtered solution evaporated, the syrup extracted with alc. and the product  
 (23.9 g.)  
 crystallized from H<sub>2</sub>O and N-methylpyrrolidone gave I [ $R = H$ ,  $R1 = R2 =$   
 $(CH_2)_3NH_2$ ], m. 205-7°, which reacted with dilituric acid to give a  
 didiliturate. VIII (43.0 g.), 15.6 g. wet Raney Ni, 18.1 g. NH<sub>3</sub>, and 100  
 ml. alc. autoclaved 3 hrs. at 155-60°/2000 lb./sq. in. H and the  
 cooled product taken up in alc., filtered and the solution concentrated gave  
 15.0  
 g. I ( $R = R1 = H$ ,  $R2 = (CH_2)_3NH_2$ ). Distillation of the amines in vacuo gave  
 appreciable quantities of tetrahydro-2-pyrimidinone, m. 263-5°,  
 hydrolyzed with HBr to (H<sub>2</sub>NCH<sub>2</sub>)<sub>2</sub>CH<sub>2</sub>. VIII (50 g.) and 70 g. anhydrous NH<sub>3</sub>  
 heated 4 hrs. at 80° in a 320-ml. autoclave yielded 96% IX.  
 IT Ultraviolet and visible, spectra  
     (of tris(2-hydroxyethyl)-s-triazine-2,4,6(1H,3H,5H)-trione)  
 IT 108-80-5, Isocyanuric acid  
     (derivs.)  
 IT 1476-23-9, Propene, 3-isocyanato-  
     (formation from triallyl-s-triazine-2,4,6(1H,3H,5H)-trione)  
 IT 1476-23-9, Isocyanic acid, allyl ester 1801-72-5, Urea, 1,3-diallyl-  
     (formation from triallyl-s-triazine-2,4,6-(1H,3H,5H)-trione)  
 IT 497-25-6, 2-Oxazolidinone  
     (formation of, from tris(2-hydroxyethyl)-s-triazine-2,4,6(1H,3H,5H)-  
     trione)  
 IT 2904-28-1, s-Triazine-1,3,5(2H,4H,6H)-tripropionitrile, 2,4,6-trioxo-  
     (preparation and reactions of)  
 IT 1025-15-6, s-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-triallyl- 1852-17-1,  
     2(1H)-Pyrimidinone, tetrahydro- 2904-27-0, s-Triazine-1,3(2H,4H)-  
     dipropionitrile, 5,6-dihydro-2,4,6-trioxo- 2904-39-4,  
     s-Triazine-1,3,5(2H,4H,6H)-tripropionic acid, 2,4,6-trioxo-, triethyl  
     ester 2904-40-7, s-Triazine-1,3(2H,4H)-dipropionic acid,  
     5,6-dihydro-2,4,6-trioxo- 2904-41-8, s-Triazine-1,3,5(2H,4H,6H)-  
     tripropionic acid, 2,4,6-trioxo- 6294-79-7, s-Triazine-2,4,6(1H,3H,5H)-  
     trione, 1,3-diallyl- 7150-63-2, Glycine, N,N'-carbonyldi-, diethyl ester  
     69455-18-1, s-Triazine-1,3,5(2H,4H,6H)-triacetic acid, 2,4,6-trioxo-,  
     triethyl ester 69455-19-2, s-Triazine-2,4,6(1H,3H,5H)-trione,  
     1,3-bis(3-aminopropyl)- 69455-20-5, s-Triazine-2,4,6(1H,3H,5H)-trione,  
     1-(3-aminopropyl)- 111529-51-2, s-Triazine-2,4,6(1H,3H,5H)-trione,  
     1,3-bis(3-aminopropyl)-, compound with dilituric acid 860382-92-9,  
     Dilituric acid, compound with bis(3-aminopropyl)-s-triazine-2,4,6-(1H,3H,5H)-  
     trione  
     (preparation of)  
 IT 108-80-5, Cyanuric acid 839-90-7, s-Triazine-2,4,6(1H,3H,5H)-trione,  
     1,3,5-tris(2-hydroxyethyl)-  
     (reactions of)

=> D HIS

(FILE 'HOME' ENTERED AT 19:02:03 ON 20 SEP 2006)

FILE 'CAPLUS' ENTERED AT 19:02:15 ON 20 SEP 2006  
 E WO2004090640/PN

L1           1 S E3

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L2 1 S 2904-41-8/RN  
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SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 19:03:59 ON 20 SEP 2006

L3 72 S L2  
L4 7 S L3 AND GLYCIDYL  
L5 26 S L3 AND EPOX?  
L6 21 S L5 NOT L4  
L7 44 S L3 NOT L4 NOT L6

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FULL ESTIMATED COST 225.86 234.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL  
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PASSWORD:

LOGINID/PASSWORD REJECTED

The loginid and/or password sent to STN were invalid.  
You either typed them incorrectly, or line noise may  
have corrupted them.

Do you wish to retry the logon?  
Enter choice (y/N):

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptau156cxh

PASSWORD:

LOGINID/PASSWORD REJECTED

The loginid and/or password sent to STN were invalid.  
You either typed them incorrectly, or line noise may  
have corrupted them.

Do you wish to retry the logon?  
Enter choice (y/N): Invalid input.  
Do you wish to retry the logon?  
Enter choice (y/N):

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptau156cxh

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* Welcome to STN International \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

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NEWS 3 FEB 27 New STN AnaVist pricing effective March 1, 2006  
NEWS 4 MAY 10 CA/CAplus enhanced with 1900-1906 U.S. patent records  
NEWS 5 MAY 11 KOREAPAT updates resume  
NEWS 6 MAY 19 Derwent World Patents Index to be reloaded and enhanced  
NEWS 7 MAY 30 IPC 8 Rolled-up Core codes added to CA/CAplus and USPATFULL/USPAT2  
NEWS 8 MAY 30 The F-Term thesaurus is now available in CA/CAplus  
NEWS 9 JUN 02 The first reclassification of IPC codes now complete in INPADOC  
NEWS 10 JUN 26 TULSA/TULSA2 reloaded and enhanced with new search and display fields  
NEWS 11 JUN 28 Price changes in full-text patent databases EPFULL and PCTFULL  
NEWS 12 JUL 11 CHEMSAFE reloaded and enhanced  
NEWS 13 JUL 14 FSTA enhanced with Japanese patents  
NEWS 14 JUL 19 Coverage of Research Disclosure reinstated in DWPI  
NEWS 15 AUG 09 INSPEC enhanced with 1898-1968 archive  
NEWS 16 AUG 28 ADISCTI Reloaded and Enhanced  
NEWS 17 AUG 30 CA(SM)/CAplus(SM) Austrian patent law changes  
NEWS 18 SEP 11 CA/CAplus enhanced with more pre-1907 records  
NEWS 19 SEP 21 CA/CAplus fields enhanced with simultaneous left and right truncation

NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

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=> e jp58107312/pn  
E1 1 JP58107295/PN  
E2 1 JP58107304/PN  
E3 1 --> JP58107312/PN  
E4 1 JP58107314/PN  
E5 1 JP58107316/PN  
E6 1 JP58107322/PN  
E7 1 JP58107328/PN  
E8 1 JP58107329/PN  
E9 1 JP58107330/PN  
E10 1 JP58107331/PN  
E11 1 JP58107332/PN  
E12 1 JP58107333/PN

=> s e3;d all  
L1 1 JP58107312/PN

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1984:35444 CAPLUS  
DN 100:35444  
ED Entered STN: 12 May 1984  
TI Laminates from solventless epoxy resin prepregs  
PA Hitachi Chemical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC B29D003-02; C08J005-24  
ICA B32B027-04; B32B027-38  
CC 38-2 (Plastics Fabrication and Uses)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58107312 JP 01003224	A2 B4	19830627 19890120	JP 1981-205902	19811218 <--
PRAI	JP 1981-205902		19811218		

CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
----- ----- -----

JP 58107312      IC      B29D003-02; C08J005-24  
                ICA      B32B027-04; B32B027-38  
                IPCI     B29D0003-02; C08J0005-24; B32B0027-04 [ICA];  
                      B32B0027-38 [ICA]  
                IPCR     B32B0027-04 [I,A]; B32B0027-04 [I,C\*]; B32B0027-38  
                      [I,A]; B32B0027-38 [I,C\*]; C08J0005-24 [I,A];  
                      C08J0005-24 [I,C\*]

AB   A void-free laminate for use as a printed circuit board is prepared from a solventless epoxy resin composition containing a novolak-type phenol-formaldehyde resin curing agent and a curing accelerator. The prepgs are hot-pressed in a mold equipped with a frame to prevent overflow of the A-stage resin. Thus, 120 g resin composition comprising Epikote 828 [25068-38-6] 100, HP 607N [9003-35-4] 55.8, and benzylidimethylamine 0.2 part was placed at the center of a stack of 4 glass cloths (170 + 250 mm). After application of a pair of glass cloths (230 + 310 mm) and a Cu foil (thickness 35  $\mu$ ) on each side, the stack was placed in a mold equipped with a frame (outer frame size 190 + 270 + 1.1 mm, width 5 mm) and pressed at 170° and 80 kg/cm<sup>2</sup> for 60 min to give a void-free laminate having soldering temperature resistance  $\geq$  3 min at 260°, flexural strength 55 kg/cm, and dielec. resistance 1014  $\Omega$  (JIS C 6431, condition A) with good heat resistance in air (E-1/140). When dicyandiamide was used as curing agent, the prepg could not be cured.

ST   epoxy resin prepg solventless laminate; phenolic curing agent liq epoxy; printed circuit board liq epoxy

IT   Phenolic resins, uses and miscellaneous  
RL: USES (Uses)  
      (curing agents, for liquid epoxy resins, in manufacture of void-free printed circuit boards)

IT   Glass fibers, uses and miscellaneous  
RL: USES (Uses)  
      (liquid epoxy resin-impregnated, containing phenolic resin curing agents, for void-free printed circuit boards)

IT   Crosslinking agents  
      (phenolic resins, for liquid epoxy resins, in manufacture of printed circuit boards)

IT   Epoxy resins, uses and miscellaneous  
RL: USES (Uses)  
      (bisphenol A-based, glass fibers impregnated with, containing phenolic resin curing agents, solventless, for void-free printed circuit boards)

IT   Epoxy resins, uses and miscellaneous  
RL: USES (Uses)  
      (bisphenol A-based, bromine-containing, glass fibers impregnated with, containing phenolic resin curing agents, solventless, for void-free printed circuit boards)

IT   Electric circuits  
      (printed, copper foil-liquid epoxy resin prepg laminates, void-free)

IT   9003-35-4  
RL: USES (Uses)  
      (curing agents, for liquid epoxy resins, in manufacture of void-free printed circuit boards)

IT   7440-50-8, uses and miscellaneous  
RL: USES (Uses)  
      (foil, laminates with liquid epoxy resin prepgs, for void-free printed circuit boards)

IT   25068-38-6 33294-14-3  
RL: USES (Uses)  
      (glass fibers impregnated with, containing phenolic resin curing agents, solventless, for void-free printed circuit boards)

=> s triglycidylisocyanurate and novolac  
      53 TRIGLYCIDYLISOCYANURATE  
      2314 NOVOLAC

## L2 O TRIGLYCIDYLISOCYANURATE AND NOVOLAC

=> s triglycidyl isocyanurate and novolac  
 2156 TRIGLYCIDYL  
 10709 ISOCYANURATE  
 994 TRIGLYCIDYL ISOCYANURATE  
 (TRIGLYCIDYL(W) ISOCYANURATE)  
 2314 NOVOLAC

## L3 1 TRIGLYCIDYL ISOCYANURATE AND NOVOLAC

&gt; d all

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2003:868472 CAPLUS  
 DN 139:351737  
 ED Entered STN: 06 Nov 2003  
 TI Lubricants having nitrogen-containing fatty esters for production of carbon fibers  
 IN Usui, Tatsuya; Komatsu, Yukio  
 PA Takemoto Oil and Fat Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM D06M013-335  
 ICS C10M105-62; C10M105-66; C10M105-70; C10M173-02; D06M013-463;  
 D06M015-643; C10N030-00; C10N040-00; D06M101-28  
 CC 40-7 (Textiles and Fibers)  
 Section cross-reference(s): 58

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003313776	A2	20031106	JP 2002-117430	20020419
PRAI	JP 2002-117430		20020419		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003313776	ICM	D06M013-335
	ICS	C10M105-62; C10M105-66; C10M105-70; C10M173-02; D06M013-463; D06M015-643; C10N030-00; C10N040-00; D06M101-28
	IPCI	D06M0013-335 [ICM,7]; C10M0105-62 [ICS,7]; C10M0105-66 [ICS,7]; C10M0105-70 [ICS,7]; C10M0105-00 [ICS,7,C*]; C10M0173-02 [ICS,7]; D06M0013-463 [ICS,7]; D06M0013-00 [ICS,7,C*]; D06M0015-643 [ICS,7]; D06M0015-37 [ICS,7,C*]; C10N0030-00 [ICS,7]; C10N0040-00 [ICS,7]; D06M0101-28 [ICS,7]
	IPCR	C10M0105-00 [I,C*]; C10M0105-62 [I,A]; C10M0105-66 [I,A]; C10M0105-70 [I,A]; C10M0173-02 [I,A]; C10M0173-02 [I,C*]; D06M0013-00 [I,C*]; D06M0013-335 [I,A]; D06M0013-463 [I,A]; D06M0015-37 [I,C*]; D06M0015-643 [I,A]

OS MARPAT 139:351737

AB The lubricant contains at least one of nitrogen-containing compds. selected from (I) polyglycidylamine fatty acid esters, (II) triglycidyl isocyanurate fatty acid esters, and (III) amino compds. derived from reaction products of aromatic polyglycidyl compds. and aliphatic amines. Thus, a lubricant was synthesized by reacting tetraglycidylaminodiphenylmethane 422 g (1 mol) with lauric acid 800 g (4 mol) in the presence of triethanolamine 0.6 g under nitrogen atmospheric at 100° for 10 h. The lubricant exhibits excellent fire resistance, contaminant prevention and cohesive prevention during carbonization in the baking furnace.

ST lubricant prodn carbon fiber polyglycidylamine fatty acid ester  
 IT Phenolic resins, uses

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(epoxy, novolak, diglycidyl ethers, reaction products with hexylamine; production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT Amines, uses  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(fatty; production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(phenolic, novolak, diglycidyl ethers, reaction products with hexylamine; production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT Lubricants  
(production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT Carbon fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT 102-71-6, Triethanolamine, uses  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst; production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT 25085-99-8DP, Bisphenol A diglycidyl ether polymer, reaction products with 9-octadecenylamine  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(dimers and trimers; production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT 111-26-2DP, Hexylamine, reaction products with phenolic novolac diglycidyl ether 1838-19-3DP, 9-Octadecenylamine, reaction products with bisphenol A diglycidyl ether condensate 208757-98-6P 618445-13-9P 618445-14-0P 618445-15-1P 618445-16-2P 618445-17-3P 618461-23-7P 618461-25-9P 618461-26-0P 618461-27-1P 618461-28-2P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT 124-22-1, Laurylamine 1675-54-3, Bisphenol A diglycidyl ether 39817-09-9, Bisphenol F diglycidyl ether  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

IT 143-07-7, Lauric acid, reactions 2451-62-9, Triglycidyl isocyanurate 28678-04-8 116891-37-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting materials; production of lubricants having nitrogen-containing fatty esters for production of carbon fibers)

=> file reg  
COST IN U.S. DOLLARS

SINCE FILE TOTAL  
ENTRY SESSION

FULL ESTIMATED COST	19.22	19.43
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.50	-1.50

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STRUCTURE FILE UPDATES: 20 SEP 2006 HIGHEST RN 908067-83-4  
 DICTIONARY FILE UPDATES: 20 SEP 2006 HIGHEST RN 908067-83-4

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

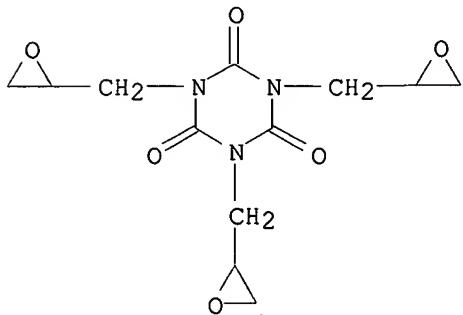
<http://www.cas.org/ONLINE/UG/regprops.html>

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=> s 2451-62-9
L4      1 2451-62-9
          (2451-62-9/RN)
```

=> d

```
L4      ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2006 ACS on STN
RN      2451-62-9  REGISTRY
ED      Entered STN: 16 Nov 1984
CN      1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)- (9CI)
          (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN      s-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2,3-epoxypropyl)- (8CI)
CN      s-Triazine-2,4,6(1H,3H,5H)-trione, tris(2,3-epoxypropyl)- (7CI)
OTHER NAMES:
CN      1,3,5-Triglycidyl isocyanurate
CN      1,3,5-Triglycidyl-s-triazine-2,4,6-trione
CN      1,3,5-Triglycidylhexahydro-1,3,5-triazine-2,4,6-trione
CN      1,3,5-Triglycidylisocyanuric acid
CN      1,3,5-Tris(2,3-epoxypropyl) isocyanurate.
CN      1,3,5-Tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-trione
CN      Glycidyl isocyanurate
CN      N,N',N'''-Triglycidyl isocyanurate
CN      NSC 269934
CN      PTGIC
CN      TGT
CN      Triglycidyl isocyanurate
CN      Tris(2,3-epoxypropyl) isocyanurate
CN      Tris(epoxypropyl) isocyanurate
FS      3D CONCORD
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DR 414867-60-0  
 MF C12 H15 N3 O6  
 CI COM  
 LC STN Files: ADISINSIGHT, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS,  
     BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN,  
     CSCHEM, CSNB, DDFU, DRUGU, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA,  
     MEDLINE, MSDS-OHS, PHAR, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER,  
     ULIDAT, USPAT2, USPATFULL  
     (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

882 REFERENCES IN FILE CA (1907 TO DATE)  
 180 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 882 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

```

=> s novolak
L5      32 NOVOLAK

=> d 32

L5      ANSWER 32 OF 32  REGISTRY  COPYRIGHT 2006 ACS on STN
RN      9003-35-4  REGISTRY
ED      Entered STN: 16 Nov 1984
CN      Phenol, polymer with formaldehyde (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN      020-210-75SK
CN      1000WS
CN      101M
CN      101M (phenolic resin)
CN      18U
CN      1940H
CN      2P1000
CN      337T28
CN      386ST
CN      550PL
CN      6KKh1B
CN      7510P
CN      80FU
CN      80FV
CN      A 407-901
CN      Ablaphene RA 101
CN      ACL 141
CN      Acme Flow 2012
CN      Acme Super Set 970
CN      Aerofix N
  
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CN Aerophene 0808  
CN AF 3T  
CN AG  
CN AG (phenolic resin)  
CN AG 4B  
CN AG 4C  
CN AG 4S  
CN AG 4V  
CN AG 4W  
CN Akrochem P 86  
CN Albertol 626L  
CN Alnovol 320K  
CN Alnovol 844K  
CN Alnovol PN 320  
CN Alnovol PN 429  
CN Alnovol PN 430  
CN Alnovol PN 844  
CN Alpit  
CN AMCR 01  
CN AML Resin AMCR 01  
CN Amres 5581  
CN Araldite K 6  
CN Arofene 700  
CN Arofene 72155  
CN Arrotex 2035  
CN Arzamit 5  
CN AST 2A  
CN Atanor R 435  
CN Atanor R 619  
CN ATF 1  
CN N 16 (novolak)  
CN Novolak 1000  
CN Novolak 18  
CN Novolak 18u  
CN Novolak 2000  
CN Novolak 70  
CN Novolak LG 724

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
DISPLAY

DR 777071-53-1, 842143-46-8, 165039-55-4, 11138-48-0, 12619-76-0, 12773-09-0,  
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39389-57-6, 39412-69-6, 39423-38-6, 39435-45-5, 52038-54-7, 52038-55-8,  
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107248-34-0, 108066-67-7, 109945-82-6, 118550-44-0, 157321-45-4,  
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293300-82-0, 305798-25-8, 316805-83-1, 491610-09-4, 537006-16-9

MF (C<sub>6</sub> H<sub>6</sub> O . C H<sub>2</sub> O)x

CI PMS, COM

PCT Phenolic resin

LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, CASREACT, CBNB, CHEMCATS,  
CHEMLIST, CIN, CSCHEM, CSNB, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE,  
MSDS-OHS, PIRA, PROMT, RTECS\*, TOXCENTER, TULSA, ULIDAT, USPAT2,  
USPATFULL

(\*File contains numerically searchable property data)

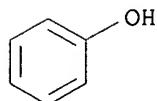
Other Sources: DSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 108-95-2

CMF C<sub>6</sub> H<sub>6</sub> O



CM 2

CRN 50-00-0

CMF C H<sub>2</sub> O

H<sub>2</sub>C=O

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

17296 REFERENCES IN FILE CA (1907 TO DATE)

2077 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

17338 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> s 9003-35-4

L6 1 9003-35-4  
(9003-35-4/RN)

=> d his

(FILE 'HOME' ENTERED AT 15:30:35 ON 21 SEP 2006)

FILE 'CAPLUS' ENTERED AT 15:30:50 ON 21 SEP 2006  
E JP58107312/PN

L1 1 S E3

L2 0 S TRIGLYCIDYLISOCYANURATE AND NOVOLAC

L3 1 S TRIGLYCIDYL ISOCYANURATE AND NOVOLAC

FILE 'REGISTRY' ENTERED AT 15:32:53 ON 21 SEP 2006

L4 1 S 2451-62-9  
L5 32 S NOVOLAK  
L6 1 S 9003-35-4

=> file caplus		SINCE FILE	TOTAL
COST IN U.S. DOLLARS		ENTRY	SESSION
FULL ESTIMATED COST	9.44		28.87
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)		SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	0.00	ENTRY	SESSION
			-1.50

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FILE COVERS 1907 - 21 Sep 2006 VOL 145 ISS 13  
 FILE LAST UPDATED: 20 Sep 2006 (20060920/ED)

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<http://www.cas.org/infopolicy.html>

=> s 16 and 13  
 17341 L6  
 L7 0 L6 AND L3

=> s 16 and polymer  
 17341 L6  
 L8 1086310 POLYMER  
 4443 L6 AND POLYMER

=> s 18 and acid  
 4214919 ACID  
 L9 1235 L8 AND ACID

=> s 13 and photo?  
 1433268 PHOTO?  
 L10 0 L3 AND PHOTO?

=> d his

(FILE 'HOME' ENTERED AT 15:30:35 ON 21 SEP 2006)

FILE 'CAPLUS' ENTERED AT 15:30:50 ON 21 SEP 2006  
 E JP58107312/PN  
 L1 1 S E3  
 L2 0 S TRIGLYCIDYLISOCYANURATE AND NOVOLAC  
 L3 1 S TRIGLYCIDYL ISOCYANURATE AND NOVOLAC

FILE 'REGISTRY' ENTERED AT 15:32:53 ON 21 SEP 2006  
 L4 1 S 2451-62-9  
 L5 32 S NOVOLAK  
 L6 1 S 9003-35-4

FILE 'CAPLUS' ENTERED AT 15:33:48 ON 21 SEP 2006  
L7           0 S L6 AND L3  
L8           4443 S L6 AND POLYMER  
L9           1235 S L8 AND ACID  
L10          0 S L3 AND PHOTO?

=> s 14 and 16  
      882 L4  
      17341 L6  
L11        12 L4 AND L6

=> d all 1-12

L11 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2003:767959 CAPLUS  
DN 139:277727  
ED Entered STN: 02 Oct 2003  
TI Environment-friendly fire-resistant thermosetting resin composition and semiconductor devices therewith  
IN Ikuta, Yuji; Kiuchi, Sachihiro  
PA NEC Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 14 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08L101-00  
      ICS C08K003-00; C08K005-16; C08K009-00; H01L023-29; H01L023-31  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003277628	A2	20031002	JP 2002-88635	20020327
PRAI	JP 2002-88635		20020327		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	JP 2003277628	ICM	C08L101-00
		ICS	C08K003-00; C08K005-16; C08K009-00; H01L023-29; H01L023-31
		IPCI	C08L0101-00 [ICM,7]; C08K0003-00 [ICS,7]; C08K0005-16 [ICS,7]; C08K0005-00 [ICS,7,C*]; C08K0009-00 [ICS,7]; H01L0023-29 [ICS,7]; H01L0023-31 [ICS,7]; H01L0023-28 [ICS,7,C*]
		IPCR	C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08K0005-00 [I,C*]; C08K0005-16 [I,A]; C08K0009-00 [I,A]; C08K0009-00 [I,C*]; C08L0101-00 [I,A]; C08L0101-00 [I,C*]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]; H01L0023-31 [I,A]

AB The composition contains thermosetting resin-treated aluminum hydroxide and a compound that releases noncombustible gas of N, CO, CO<sub>2</sub>, and/or NH<sub>3</sub> on thermal decomposition. A composition contained cresol novolak epoxy resin 12.3, phenol novolak resin 6.4, crushed fused silica 52, bisphenol F-type epoxy resin-treated Al(OH)<sub>3</sub> 25, isocyanuric acid 3, 2-phenyl-4-methyl-imidazole 0.36, carnauba wax 0.4, and γ-glycidoxypolytrimethoxysilane 0.8 part, giving a semiconductor device with good fire and solder heat resistance.

ST environment friendly fire resistant thermosetting resin semiconductor device; aluminum hydroxide fireproofing agent epoxy resin semiconductor device

IT Phenolic resins, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(aralkyl; environmentally-friendly fire-resistant thermosetting resin composition and semiconductor devices therewith)

IT Electronic packaging materials

Fireproofing agents  
 Semiconductor devices  
     (environmentally-friendly fire-resistant thermosetting resin composition and  
     semiconductor devices therewith)  
 IT Phenolic resins, uses  
 Phenolic resins, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
     (environmentally-friendly fire-resistant thermosetting resin composition and  
     semiconductor devices therewith)  
 IT Phenolic resins, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
     (epoxy, novolak; environmentally-friendly fire-resistant thermosetting  
     resin composition and semiconductor devices therewith)  
 IT Epoxy resins, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
     (phenolic, novolak; environmentally-friendly fire-resistant  
     thermosetting resin composition and semiconductor devices therewith)  
 IT 42423-25-6, Bisphenol F-epichlorohydrin copolymer  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
     (aluminum hydroxide treated with, fireproofing agent;  
     environmentally-friendly fire-resistant thermosetting resin composition and  
     semiconductor devices therewith)  
 IT 21645-51-2, Aluminum hydroxide, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
     (bisphenol F-type epoxy resin-treated, fireproofing agent;  
     environmentally-friendly fire-resistant thermosetting resin composition and  
     semiconductor devices therewith)  
 IT 2451-62-9, Triglycidyl isocyanurate 9003-35-4,  
 Phenol-formaldehyde copolymer 9016-83-5D, Cresol-formaldehyde copolymer,  
 glycidyl ether 178965-58-7 188448-51-3 192333-07-6 335349-08-1  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
     (environmentally-friendly fire-resistant thermosetting resin composition and  
     semiconductor devices therewith)  
 IT 108-80-5, Isocyanuric acid 110-21-4, Hydrazodicarbonamide  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
     (fireproofing agent; environmentally-friendly fire-resistant  
     thermosetting resin composition and semiconductor devices therewith)

L11 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2002:503732 CAPLUS  
 DN 137:79668  
 ED Entered STN: 05 Jul 2002  
 TI Fire-resistant polyamide compositions with good discoloration resistance  
 IN Tsukahara, Yoshimitsu; Ihara, Hisaji; Akitsu, Masaharu; Suzuki, Hideaki  
 PA Sankyo Organic Chemicals Co., Japan  
 SO Jpn. Kokai Tokkyo Koho, 54 pp.  
 CODEN: JKXXAF

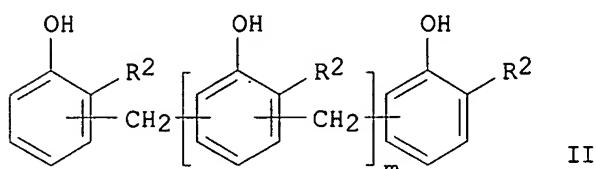
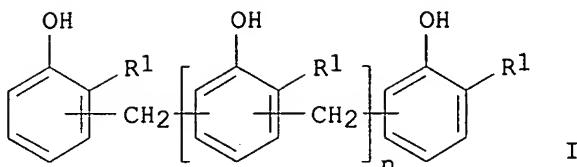
DT Patent  
 LA Japanese  
 IC ICM C08L077-00  
     ICS C08K003-34; C08L077-00; C08L063-06; C08L063-04  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002188004	A2	20020705	JP 2000-386225	20001220
PRAI	JP 2000-386225		20001220		

CLASS  
 PATENT NO.            CLASS    PATENT FAMILY CLASSIFICATION CODES  
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JP 2002188004 ICM C08L077-00  
 ICS C08K003-34; C08L077-00; C08L063-06; C08L063-04  
 IPCI C08L0077-00 [ICM,7]; C08K0003-34 [ICS,7]; C08K0003-00  
       [ICS,7,C\*]; C08L0077-00 [ICS,7]; C08L0063-06 [ICS,7];  
       C08L0063-04 [ICS,7]; C08L0063-00 [ICS,7,C\*]  
 IPCR C08K0003-00 [I,C\*]; C08K0003-34 [I,A]; C08L0077-00  
       [I,A]; C08L0077-00 [I,C\*]

GI



**AB** The compns. comprise 100 parts polyamides, 3-50 parts Br-based fireproofing agents, and 0.01-5.0 parts discoloration prevention agents comprising (A) epoxypropyl isocyanurates, (B) phenolic novolak epoxy resins manufactured from I, epihalohydrins, and  $\geq 1$  compds. chosen from 4,4'-dihydroxydiphenyl having R2 on position 3, 3', 5, and 5', 4,4'-dihydroxydiphenyl sulfone having R2 on position 3, 3', 5, and 5', dihydroxybenzene, p-HOC<sub>6</sub>H<sub>4</sub>C(R<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>OH-p, dihydroxynaphthalene, and II (R<sub>1</sub>, R<sub>2</sub> = H, Me; n  $\geq 0$ ), and (C) zeolites at A/B weight ratio of 80/20-20/80 and (A + B)/C weight ratio of 95/5-10/90. Thus, pellets comprising 100 parts Leona 1500 (nylon 66), 3 parts Saytex 8010 [bis(pentabromophenyl)ethane], and 0.0076 part bis(epoxypropyl) isocyanurate, 0.0019 part novolak epoxy resin manufactured from o-cresol novolak, 4,4'-diphenol, and epichlorohydrin, and 0.0005 part Na<sub>12</sub>A<sub>11</sub>Si<sub>12</sub>O<sub>48</sub> were injection-molded to give a disk showing good discoloration resistance on heating at 250° for 40 min.

**ST** polyamide bromo fireproofing agent discoloration resistance; glycidyl isocyanurate discoloration prevention agent polyamide; zeolite discoloration prevention agent polyamide fire resistance; novolak epoxy resin discoloration prevention agent polyamide; nylon 66 bispentabromophenylethane discoloration resistance

**IT** Zeolites (synthetic), uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
       (Ba, fireproofing agents; fire-resistant polyamide compns. with good discoloration resistance)

**IT** X zeolites  
 RL: MOA (Modifier or additive use); USES (Uses)  
       (CaX, discoloration prevention agents, Zeostar CX 100P; fire-resistant polyamide compns. with good discoloration resistance)

**IT** Zeolites (synthetic), uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
       (Mg, fireproofing agents; fire-resistant polyamide compns. with good discoloration resistance)

**IT** Zeolites (synthetic), uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
       (Zn, fireproofing agents; fire-resistant polyamide compns. with good discoloration resistance)

**IT** X zeolites

IT RL: MOA (Modifier or additive use); USES (Uses)  
(discoloration prevention agents, Zeostar NX 100P; fire-resistant polyamide compns. with good discoloration resistance)

IT A zeolites  
RL: MOA (Modifier or additive use); USES (Uses)  
(discoloration prevention agents; fire-resistant polyamide compns. with good discoloration resistance)

IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(epoxy, novolak, discoloration prevention agents; fire-resistant polyamide compns. with good discoloration resistance)

IT Discoloration prevention agents  
(epoxypropyl isocyanurates, novolak epoxy resins, and zeolites; fire-resistant polyamide compns. with good discoloration resistance)

IT Fire-resistant materials  
(fire-resistant polyamide compns. with good discoloration resistance)

IT Polyamides, uses  
RL: POF (Polymer in formulation); USES (Uses)  
(fire-resistant polyamide compns. with good discoloration resistance)

IT Epoxy resins, uses  
Polycarbonates, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(fireproofing agents; fire-resistant polyamide compns. with good discoloration resistance)

IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(glycidyl ethers, polymers with diphenol and tetramethylbisphenol S glycidyl ethers, discoloration prevention agents; fire-resistant polyamide compns. with good discoloration resistance)

IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(phenolic, novolak, discoloration prevention agents; fire-resistant polyamide compns. with good discoloration resistance)

IT 80-05-7DP, Bisphenol A, polymers with cresol novolak epoxy resin, glycidyl ethers 80-09-1DP, Bisphenol S, glycidyl ethers, polymers with cresol novolak epoxy resin 92-88-6DP, 4,4'-Diphenol, glycidyl ethers, polymers with cresol novolak epoxy resin 123-31-9DP, Hydroquinone, polymers with formaldehyde-cresol copolymer glycidyl ether 581-43-1DP, 2,6-Dihydroxynaphthalene, polymers with formaldehyde-cresol copolymer glycidyl ether 620-92-8DP, Bis(4-hydroxyphenylmethane), glycidyl ethers, polymers with novolak epoxy resin 2417-04-1DP, polymers with formaldehyde-phenol copolymer glycidyl ether 9003-35-4DP, Formaldehyde-phenol copolymer, glycidyl ethers, polymers with diphenol and tetramethylbisphenol S glycidyl ethers 13288-70-5DP, glycidyl ethers, polymers with novolak epoxy resin 25053-96-7DP, o-Cresol-formaldehyde copolymer, glycidyl ethers, polymers with diphenol and diphenol glycidyl ethers  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(discoloration prevention agents; fire-resistant polyamide compns. with good discoloration resistance)

IT 2451-62-9, Tris(epoxypropyl) isocyanurate 12003-51-9  
52918-26-0, Diglycidyl isocyanurate 136133-09-0, Monoglycidyl isocyanurate  
RL: MOA (Modifier or additive use); USES (Uses)  
(discoloration prevention agents; fire-resistant polyamide compns. with good discoloration resistance)

IT 24937-16-4, Daiamid L 1640 25038-54-4, Novamid 1020CA2, uses  
25038-74-8 25718-70-1 25805-74-7, Reny 2041 32131-17-2, Leona 1500, uses  
RL: POF (Polymer in formulation); USES (Uses)  
(fire-resistant polyamide compns. with good discoloration resistance)

IT 1163-19-5, FR 1210 9003-53-6D, Polystyrene, brominated 27815-51-6  
 28774-93-8, Fireguard 7500 32588-76-4, Saytex BT 93W 40039-93-8,  
 Pratherm EP 100 84852-53-9, Saytex 8010 86168-32-3, Pyro-Chek 68PB  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fireproofing agents; fire-resistant polyamide compns. with good  
 discoloration resistance)

L11 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:401925 CAPLUS  
 DN 133:44401  
 ED Entered STN: 16 Jun 2000  
 TI Crosslinkable and hardenable epoxy resin-polyester-based compositions with  
 optimized crosslinking  
 IN Gedan-Smolka, Michaela; Lehmann, Dieter; Meier-Haack, Jochen  
 PA Institut fur Polymerforschung Dresden e.V., Germany  
 SO PCT Int. Appl., 30 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA German  
 IC ICM C08L101-00  
 ICS C09D201-00; C09D005-03  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 42  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000034391	A1	20000615	WO 1999-EP9464	19991203
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	DE 19856877	A1	20000615	DE 1998-19856877	19981210
	EP 1155088	A1	20011121	EP 1999-964518	19991203
	EP 1155088	B1	20040218		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	AT 259862	E	20040315	AT 1999-964518	19991203
PRAI	DE 1998-19856877	A	19981210		
	WO 1999-EP9464	W	19991203		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
	WO 2000034391	ICM	C08L101-00		
		ICS	C09D201-00; C09D005-03		
		IPCI	C08L0101-00 [ICM,7]; C09D0201-00 [ICS,7]; C09D0005-03 [ICS,7]		
		IPCR	C08J0003-24 [I,A]; C08J0003-24 [I,C*]; C09D0005-03 [I,A]; C09D0005-03 [I,C*]		
		ECLA	C08J003/24D; C09D005/03		
DE 19856877		IPCI	C08J0003-24 [ICM,7]; C09D0005-03 [ICS,7]		
		IPCR	C08J0003-24 [I,A]; C08J0003-24 [I,C*]; C09D0005-03 [I,A]; C09D0005-03 [I,C*]		
		ECLA	C08J003/24D; C09D005/03		
EP 1155088		IPCI	C08L0101-00 [ICM,6]; C09D0201-00 [ICS,6]; C09D0005-03 [ICS,6]		
		IPCR	C08J0003-24 [I,A]; C08J0003-24 [I,C*]; C09D0005-03 [I,A]; C09D0005-03 [I,C*]		
AT 259862		IPCI	C08L0101-00 [ICM,7]; C09D0201-00 [ICS,7]; C09D0005-03 [ICS,7]		
AB	Hardenable compns. contain (1) one or more functionalized polymer(s) with				

at least two similar reactive groups, (2) one or more functionalized polymer(s) with at least two different reactive groups, (3) one or more functionalized low-mol.-weight and/or oligomeric crosslinking agents with at least two reactive functional groups, (4) at least one catalyst for addition reactions, and (E) addnl. applications and processing additives. The hardenable compns. contain preferably at least one epoxy resin and, optionally, hydroxy group-containing olefinic copolymers. The compns., which can be used to prepare lacquers, can be processed reproducibly for a large number of steps and can be fired or hardened, especially in solution or in the melt

phase, at as low a temperature as possible.

ST crosslinking epoxy polyester lacquer

IT Transition metal complexes

RL: CAT (Catalyst use); USES (Uses)  
(acetylacetone, crosslinking agents containing; crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Aminoplasts

Epoxy resins, preparation

Phenolic resins, preparation

Polyesters, preparation

Polyethers, preparation

Polyureas

Polyurethanes, preparation

RL: NUU (Other use, unclassified); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Amidines

Amines, uses

Phosphonium compounds

Quaternary ammonium compounds, uses

RL: CAT (Catalyst use); USES (Uses)  
(crosslinking agents containing; crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Carboxylic acids, uses

RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(dicarboxylic, C3-20, crosslinking agents containing; crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Polyesters, préparation

Polyesters, preparation

RL: NUU (Other use, unclassified); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(epoxy; crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Epoxy resins, preparation

Epoxy resins, preparation

RL: NUU (Other use, unclassified); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(polyester-; crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Aminoplasts

Phenolic resins, preparation

RL: NUU (Other use, unclassified); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(polymers; crosslinkable and hardenable epoxy resin-polyester-based compns. with optimized crosslinking)

IT Crosslinking  
(temperature profiles of; crosslinkable and hardenable epoxy

resin-polyester-based compns. with optimized crosslinking)

IT Phosphines  
 RL: CAT (Catalyst use); USES (Uses)  
 (tertiary, crosslinking agents containing; crosslinkable and hardenable  
 epoxy resin-polyester-based compns. with optimized crosslinking)

IT 79-10-7DP, Acrylic acid, polymers 80-05-7P, Bisphenol A, preparation  
 124-04-9P, Adipic acid, preparation 1675-54-3DP, Bisphenol A diglycidyl  
 ether, polymers 2451-62-9DP, Triglycidyl isocyanurate, polymers  
 7176-19-4DP, polymers 7195-44-0DP, Terephthalic acid diglycidyl ester,  
 polymers 9003-08-1DP, Melamine-formaldehyde copolymer, polymers  
 9003-35-4DP, Phenol-formaldehyde copolymer, polymers  
 9011-05-6DP, Urea-formaldehyde copolymer, polymers  
 RL: NUU (Other use, unclassified); POF (Polymer in formulation); RCT  
 (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent); USES (Uses)  
 (crosslinkable and hardenable epoxy resin-polyester-based compns. with  
 optimized crosslinking)

IT 56-93-9, Benzyltrimethylammonium chloride 119-53-9, Benzoin 288-32-4D,  
 1H-Imidazole, derivs., uses 693-98-1, 2-Methyl-1H-imidazole 2751-90-8,  
 Tetraphenylphosphonium bromide 4288-15-7, Octanoic acid, tin salt  
 7440-31-5D, Tin, compds., uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (crosslinking agents containing; crosslinkable and hardenable epoxy  
 resin-polyester-based compns. with optimized crosslinking)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Ashland Oil Inc; EP 0256162 A 1988 CAPLUS  
 (2) Bayer AG; DE 3545061 A 1987 CAPLUS  
 (3) Dow Chemical Co; WO 9304122 A 1993 CAPLUS  
 (4) Fuller H B Co; GB 2312897 A 1997 CAPLUS  
 (5) Hironao, F; US 5120810 A 1992 CAPLUS  
 (6) Nippon Paint Co Ltd; EP 0504732 A 1992 CAPLUS

L11 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:209506 CAPLUS  
 DN 132:238117  
 ED Entered STN: 31 Mar 2000  
 TI Semiconductor devices with good heat cycle and crack resistance and  
 packaging compositions for their manufacture  
 IN Yamaguchi, Miho; Yamamoto, Hiroko  
 PA Nitto Denko Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 27 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM H01L023-29  
 ICS H01L023-31; C08K003-22; C08L101-16  
 CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000091476	A2	20000331	JP 1999-203116	19990716
PRAI JP 1998-202224	A	19980716		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000091476	ICM	H01L023-29
	ICS	H01L023-31; C08K003-22; C08L101-16
	IPCI	H01L0023-29 [ICM,7]; H01L0023-31 [ICS,7]; C08K0003-22 [ICS,7]; C08L0101-16 [ICS,7]
	IPCR	C08K0003-00 [N,C*]; C08K0003-22 [N,A]; C08L0101-00 [N,C*]; C08L0101-16 [N,A]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]; H01L0023-31 [I,A]

AB The semiconductor devices are manufactured by using epoxy resin compns.  
 containing

mixed metal oxide hydrate compds.  $m(MaOb) \cdot n(QdOe) \cdot cH2O$  ( $M =$  metals;  $Q =$  metals other than  $M$ ;  $m, n, a, b, c, d, e \geq 1$ ) as improvers for heat crack resistance. Thus, an electronic packaging composition comprising a novolak epoxy resin 75, 1,2-di-tert-butyl-3,5-diglycidoxybenzene 25, a phenolic novolak 46, a benzaldehyde-formaldehyde-phenol copolymer 22, Ph3P 2, carnauba wax 5, silica powder 1224 and polygonal mixed metal oxide  $MgO \cdot CuO \cdot H2O$  (diameter 0.6  $\mu m$ ; aspect ration 3) 200 parts gave test pieces with good heat cycle and crack resistance.

ST semiconductor device packaging epoxy resin mixed metal oxide hydrate; heat cycle crack resistance electronic packaging material

IT Oxides (inorganic), uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(ceramic, heat crack improvers; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(curing agent; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Phenolic resins, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(epoxy, novolak; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Phenolic resins, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(glycidyl ether; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Polybenzyls  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(hydroxy-containing; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(novolak, curing agent; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Epoxy resins, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(phenolic, novolak; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT Electronic packaging materials  
Semiconductor devices  
(semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT 215172-91-1, Copper magnesium oxide ( $CuMgO_2$ ) monohydrate 215172-94-4, Cobalt magnesium oxide ( $CoMgO_2$ ) monohydrate 215172-97-7, Magnesium zinc oxide ( $MgZnO_2$ ) monohydrate  
RL: MOA (Modifier or additive use); USES (Uses)  
(ceramic, heat crack improvers; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT 9003-35-4, Formaldehyde-phenol copolymer 30420-31-6,  
Dicyclopentadiene-phenol copolymer  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)  
(curing agent; semiconductor devices with good heat cycle and crack resistance and packaging compns. for manufacture)

IT 85954-11-6, 3,3',5,5'-Tetramethylbiphenol diglycidyl ether  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(curing agent; semiconductor devices with good heat cycle and crack

resistance and packaging compns. for manufacture)

IT 106-92-3D, Allyl glycidyl ether, reaction products with H  
 polyoxyalkylene-polysiloxane graft copolymer, trimethylsilyl-terminated  
 9003-35-4D, Formaldehyde-phenol copolymer, glycidyl ether  
 223558-43-8D, Dimethylsilanediol-methylsilanediol-propylene oxide graft  
 copolymer methyl ether, reaction products with glycidyl allyl ether,  
 trimethylsilyl-terminated  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (semiconductor devices with good heat cycle and crack resistance and  
 packaging compns. for manufacture)

IT 2451-62-9, Glycidyl isocyanurate 64777-22-6,  
 1,4-Di(glycidyloxy)-2,5-di-tert-butylbenzene  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (semiconductor devices with good heat cycle and crack resistance and  
 packaging compns. for manufacture)

L11 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:594483 CAPLUS  
 DN 129:261365  
 ED Entered STN: 18 Sep 1998  
 TI Thermally stable compositions of fireproofed polyamide resins and their  
 manufacture  
 IN Tsukahara, Yoshimitsu; Ihara, Kyuji; Akitsu, Masaharu; Suzuki, Hideaki  
 PA Sankyo Organic Chemicals Co., Japan  
 SO Jpn. Kokai Tokkyo Koho, 123 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L077-00  
 ICS C08K003-26; C08K005-15; C08K005-3477; C08L077-00; C08L063-04  
 CC 37-6 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10231423 JP 3476353	A2 B2	19980902 20031210	JP 1997-349482	19971218
PRAI	JP 1996-341038	A	19961220		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 10231423	ICM ICS IPCI IPCR	C08L077-00 C08K003-26; C08K005-15; C08K005-3477; C08L077-00; C08L063-04 C08L0077-00 [ICM,6]; C08K0003-26 [ICS,6]; C08K0005-15 [ICS,6]; C08K0005-3477 [ICS,6]; C08L0077-00 [ICS,6]; C08L0063-04 [ICS,6] C08K0003-00 [I,C*]; C08K0003-22 [I,A]; C08K0003-26 [I,A]; C08K0005-00 [I,C*]; C08K0005-15 [I,A]; C08K0005-29 [I,A]; C08K0005-3477 [I,A]; C08L0077-00 [I,A]; C08L0077-00 [I,C*]

AB The compns. contain (A) polyamides 100, (B) Br-type fireproofing agents  
 1-50, (C) heat stabilizers 0.01-5.0 parts, and optionally (D) hydrotalcite  
 compds., where the C is obtained from epoxypropyl isocyanurate or/and the  
 reaction products of cresol or phenolic novolaks with epichlorohydrin and  
 specified dihydric phenols or polyphenol compds. or phenolic epoxy resins.

ST heat stabilizer phenol epoxy polyamide compn; fireproof polyamide compn  
 heat stabilizer; epoxidized phenolic novolak polyamide compn; cresol  
 novolak epoxy polyamide compn; hydrotalcite heat stabilizer polyamide  
 compn

IT Fireproofing agents  
 (bromine-containing compds.; thermally stable compns. of fireproofed  
 polyamide resins and manufacture)

IT Phenolic resins, preparation

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(glycidyl ethers, heat stabilizer; thermally stable compns. of fireproofed polyamide resins and manufacture)

IT Heat stabilizers  
(phenolic epoxy resins; thermally stable compns. of fireproofed polyamide resins and manufacture)

IT Polyamides, properties  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(thermally stable compns. of fireproofed polyamide resins and manufacture)

IT 25805-74-7, MXD 6  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(Reny 2041; thermally stable compns. of fireproofed polyamide resins and manufacture)

IT 1163-19-5, FR-1210 28774-93-8, Fire Guard 7500 40039-93-8, Pratherm EP-100 84852-53-9, Saytex 8010 86168-32-3, Pyrochek 68PB  
RL: MOA (Modifier or additive use); USES (Uses)  
(fireproofing agent; thermally stable compns. of fireproofed polyamide resins and manufacture)

IT 9003-35-4DP, Formaldehyde-phenol copolymer, glycidyl ethers  
25053-96-7DP, o-Cresol-formaldehyde copolymer, glycidyl ethers  
40216-08-8P, Bisphenol A-epichlorohydrin-formaldehyde-phenol copolymer  
67626-89-5P, Bisphenol A-o-cresol-epichlorohydrin-formaldehyde copolymer  
112094-74-3P, Epichlorohydrin-formaldehyde-phenol-tetramethylbisphenol S copolymer 125953-86-8P, o-Cresol-4,4'-diphenol-epichlorohydrin-formaldehyde copolymer 132558-03-3P, Bisphenol S-o-cresol-epichlorohydrin-formaldehyde copolymer 135600-60-1P, Epichlorohydrin-formaldehyde-phenol-3,3',5,5'-tetramethylbiphenol copolymer 212385-26-7P, o-Cresol-epichlorohydrin-formaldehyde-hydroquinone copolymer 212385-27-8P, o-Cresol-2,6-dihydroxynaphthalene-epichlorohydrin-formaldehyde copolymer  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(heat stabilizer; thermally stable compns. of fireproofed polyamide resins and manufacture)

IT 2451-62-9, Triglycidyl isocyanurate 12304-65-3, Hydrotalcite (Mg<sub>6</sub>(CO<sub>3</sub>)<sub>2</sub>[Al(OH)<sub>6</sub>]<sub>2</sub>(OH)4·4H<sub>2</sub>O) 52918-26-0, Diglycidyl isocyanurate 136133-09-0, Monoglycidyl isocyanurate  
RL: MOA (Modifier or additive use); USES (Uses)  
(heat stabilizer; thermally stable compns. of fireproofed polyamide resins and manufacture)

IT 12539-23-0 163363-37-9  
RL: MOA (Modifier or additive use); USES (Uses)  
(thermally stable compns. of fireproofed polyamide resins and manufacture)

IT 24937-16-4, Daiamid L 1640 25038-54-4, Novamid 1020CA2, properties  
25718-70-1, Adipic acid-m-xylenediamine copolymer 32131-17-2, Leona 1500, properties  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(thermally stable compns. of fireproofed polyamide resins and manufacture)

L11 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1998:277373 CAPLUS  
DN 129:28852  
ED Entered STN: 14 May 1998  
TI Flame-retardant sealing compositions for use in packaging of semiconductor devices and their manufacture  
IN Eguchi, Shuji; Sugawara, Yasuhide; Ishii, Toshiaki; Osumi, Hiroyoshi; Nagai, Akira; Motegi, Akira; Ogino, Masahiko; Segawa, Masanori; Tsuyuno, Nobutake; Ueno, Takumi; Nakamura, Atsushi; Nishimura, Asao  
PA Hitachi, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM C08L063-00  
 ICS C08K003-00; C08K003-38; C08K005-00; C08K005-16; C08K005-49;  
 H01L023-29; H01L023-31  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10114853 JP 3440775 US 6097100	A2 B2 A	19980506 20030825 20000801	JP 1997-225987 US 1997-915334	19970822 19970820
PRAI	JP 1996-220991	A	19960822		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	JP 10114853	ICM ICS IPCI IPCR	C08L063-00 C08K003-00; C08K003-38; C08K005-00; C08K005-16; C08K005-49; H01L023-29; H01L023-31 C08L0063-00 [ICM,6]; C08K0003-00 [ICS,6]; C08K0003-38 [ICS,6]; C08K0005-00 [ICS,6]; C08K0005-16 [ICS,6]; C08K0005-49 [ICS,6]; H01L0023-29 [ICS,6]; H01L0023-31 [ICS,6] C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08K0003-38 [I,A]; C08K0005-00 [I,A]; C08K0005-00 [I,C*]; C08K0005-16 [I,A]; C08K0005-49 [I,A]; C08K0013-00 [I,C*]; C08K0013-02 [I,A]; C08L0063-00 [I,A]; C08L0063-00 [I,C*]; H01L0023-28 [I,C*]; H01L0023-29 [I,A]; H01L0023-31 [I,A].
	US 6097100	IPCI IPCR NCL ECLA	H01L0023-28 [ICM,7] H01L0023-28 [I,C*]; H01L0023-29 [I,A]; H01L0023-31 [I,A]; H01L0023-48 [I,C*]; H01L0023-495 [I,A] 257/787.000; 257/788.000; 257/789.000; 257/E23.039; 257/E23.119 H01L023/29P; H01L023/31H2B; H01L023/495A4

AB The sealing compns. with good balance of heat and moisture resistance and flame retardancy are obtained from epoxy resins, flame retardants selected from organic P, Br and N compds. and boric acid metal salts as fireproofing co-agents which are incorporated for suppressing the thermal degradation of sealing compns. An example of the boric acid metal salts is Zn borate.

ST epoxy resin electronic packaging fireproofing agent; semiconductor device sealing epoxy compn; phosphorus fireproofing epoxy sealing compn; bromine fireproofing epoxy sealing compn

IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (curing agents; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)

IT Aminoplasts  
Borates  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (fireproofing agents; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)

IT Electronic packaging materials  
Fireproofing agents  
Sealing compositions  
Semiconductor devices  
(flame-retardant epoxy compns. for use in packaging of semiconductor devices and manufacture)

IT Epoxy resins, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (flame-retardant sealing compns. for use in packaging of semiconductor

devices and manufacture)  
 IT Poly(arylenealkylenes)  
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (hydroxy-containing, curing agents; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)  
 IT Epoxy resins, uses  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (phenolic, novolak; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)  
 IT 9003-35-4, Formaldehyde-phenol copolymer 30420-31-6,  
 Dicyclopentadiene-phenol copolymer  
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (curing agents; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)  
 IT 791-28-6D, Triphenylphosphine oxide, esters 2451-62-9,  
 Triglycidyl isocyanurate 7664-38-2, Phosphoric acid, uses 9003-08-1,  
 Melamine resin 40039-93-8, Tetrabromobisphenol A-epichlorohydrin copolymer 79922-55-7, 2,2-Bis[4-(4-maleimidophenoxy)phenyl]propane 148780-63-6, (2,5-Diglycidyloxyphenyl)diphenylphosphine oxide  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (fireproofing agents; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)  
 IT 1332-07-6, Zinc borate  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (fireproofing co-agents; flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)  
 IT 30420-31-6D, Dicyclopentadiene-phenol copolymer, glycidyl ethers  
 72356-51-5D, o-Cresol-phenol copolymer, glycidyl ethers  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)  
 IT 85954-11-6, 3,3',5,5'-Tetramethylbiphenol diglycidyl ether  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (flame-retardant sealing compns. for use in packaging of semiconductor devices and manufacture)

L11 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1998:147335 CAPLUS  
 DN 128:193260  
 ED Entered STN: 11 Mar 1998  
 TI Adduct of an epoxy compound and cyclic phosphite  
 IN Buser, Antonius Johannes Wilhelmus; Schutyser, Jan Andre Josef  
 PA Akzo Nobel N.V., Neth.; Buser, Antonius Johannes Wilhelmus; Schutyser, Jan Andre Josef  
 SO PCT Int. Appl., 22 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM C07F009-6571  
 ICS C08G059-30  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9807731	A1	19980226	WO 1997-EP4406	19970806
	W: CA, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

CA 2264001	AA 19980226	CA 1997-2264001	19970806
EP 923587	A1 19990623	EP 1997-918979	19970806
EP 923587	B1 20011212		
R: DE, ES, FR, GB, IT, NL			
JP 2000516659	T2 20001212	JP 1998-510357	19970806
US 6284869	B1 20010904	US 1999-254076	19990614
PRAI NL 1996-1003863	A 19960823		
US 1997-42347P	P 19970324		
WO 1997-EP4406	W 19970806		

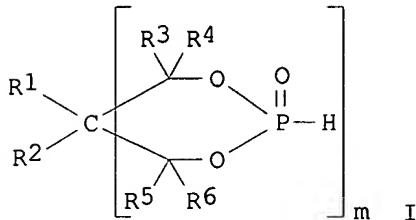
**CLASS**

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 9807731	ICM	C07F009-6571
	ICS	C08G059-30
	IPCI	C07F0009-6571 [ICM, 6]; C07F0009-00 [ICM, 6, C*]; C08G0059-30 [ICS, 6]; C08G0059-00 [ICS, 6, C*]
	IPCR	C07F0009-00 [I, C*]; C07F0009-6571 [I, A]; C08G0059-00 [I, C*]; C08G0059-14 [I, A]; C08G0059-30 [I, A]
	ECLA	C07F009/6571A1; C07F009/6571A6; C07F009/6571L4; C08G059/14K8; C08G059/30D
CA 2264001	IPCI	C07F0009-6571 [ICM, 6]; C07F0009-00 [ICM, 6, C*]; C08G0059-30 [ICS, 6]; C08G0059-00 [ICS, 6, C*]
EP 923587	IPCI	C07F0009-6571 [ICM, 6]; C07F0009-00 [ICM, 6, C*]; C08G0059-30 [ICS, 6]; C08G0059-00 [ICS, 6, C*]
	IPCR	C07F0009-00 [I, C*]; C07F0009-6571 [I, A]; C08G0059-00 [I, C*]; C08G0059-14 [I, A]; C08G0059-30 [I, A]
JP 2000516659	IPCI	C08G0059-14 [ICM, 7]; C08G0059-00 [ICM, 7, C*]; C07F0009-6571 [ICS, 7]; C07F0009-00 [ICS, 7, C*]
US 6284869	IPCI	C08G0079-02 [ICM, 7]; C08G0079-00 [ICM, 7, C*]; B32B0003-00 [ICS, 7]
	IPCR	C07F0009-00 [I, C*]; C07F0009-6571 [I, A]; C08G0059-00 [I, C*]; C08G0059-14 [I, A]; C08G0059-30 [I, A]
	NCL	528/398.000; 428/209.000; 428/901.000; 528/108.000
	ECLA	C07F009/6571A1; C07F009/6571A6; C07F009/6571L4; C08G059/14K8; C08G059/30D

OS MARPAT 128:193260

GI



AB The invention pertains to a heat-resistant adduct comprising epoxy groups obtainable by condensation of an epoxy compound and phosphite I ( $R_1, R_2 = H$  or  $C_{1-4}$  alkyl,  $R_3-6 = H$  or  $C_{1-4}$  alkyl,  $m = 1$ ) optionally, in admixt. with I ( $R_1$  and  $R_2$  are absent,  $m$  is 2,  $R_3-6 H$  or  $C_{1-4}$  alkyl). These adducts are useful for the manufacture of Br-free, fire-resistant prepgs and electrolaminates. A typical curable composition contained 12 g 50% solution of an

adduct prepared from 138.3 g triglycidyl isocyanurate and 70.2 g 5,5-dimethyl-1,3,2-dioxaphosphorinane 2-oxide in 1-methoxy-2-propanol, 5.5 g Epikote 828, 4.8 g 10% dicyandiamide-DMF solution, and 48 mg 2-methylimidazole.

ST epoxy resin cyclic phosphite adduct manuf; bisphenol A epoxy fireproof bromine free; triglycidyl isocyanurate dioxaphosphorinane oxide adduct manuf; heat resistant epoxy resin phosphite adduct; bromine free fireproof epoxy electrolaminate

IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxidized, reaction products with dimethyldioxaphosphorinane oxide; epoxy group-containing adducts of epoxy compds. and cyclic phosphites for fireproof, bromine-free epoxy resin products)

IT Fire-resistant materials  
Printed circuit boards  
(epoxy group-containing adducts of epoxy compds. and cyclic phosphites for fireproof, bromine-free epoxy resin products)

IT Epoxy resins, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(phosphorus-containing; epoxy group-containing adducts of epoxy compds. and cyclic phosphites for fireproof, bromine-free epoxy resin products)

IT 115-77-5, Pentaerythritol, reactions 762-04-9, Diethyl phosphite  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclic phosphite precursor; epoxy group-containing adducts of epoxy compds. and cyclic phosphites for fireproof, bromine-free epoxy resin products)

IT 80-05-7DP, Bisphenol A, reaction products with epichlorohydrin and epoxy compound-cyclic phosphites 106-89-8DP, Epichlorohydrin, reaction products with bisphenol A and epoxy compound-cyclic phosphites 2451-62-9DP, Triglycidyl isocyanurate, reaction products with dimethyldioxaphosphorinane oxide 4090-60-2DP, 5,5-Dimethyl-1,3,2-dioxaphosphorinane 2-oxide, reaction products with epoxy compds. 27198-72-7DP, reaction products with epoxy compds.  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(epoxy group-containing adducts of epoxy compds. and cyclic phosphites for fireproof, bromine-free epoxy resin products)

IT 9003-35-4DP, Formaldehyde-phenol copolymer, epoxidized, reaction products with dimethyldioxaphosphorinane oxide  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy group-containing adducts of epoxy compds. and cyclic phosphites for fireproof, bromine-free epoxy resin products)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Budenheim Rud A Oetker Chemie; DE 4221678 A 1994 CAPLUS  
(2) Ciba; FR 1503429 A 1967 CAPLUS  
(3) Kihara, Y; JP 46020824 A CAPLUS  
(4) Porret, D; US 3971813 A 1976 CAPLUS  
(5) Vogt, W; US 3399171 A 1968

L11 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1994:510519 CAPLUS  
DN 121:110519  
ED Entered STN: 03 Sep 1994  
TI Preparation of flame-resistant phenolic-curable epoxy potting compositions  
IN Markert, Helmut; Donner, Peter; Kretschmar, Klaus; Mueller, Klaus;  
Schreyer, Michael  
PA Siemens A.-G., Germany  
SO Ger. Offen., 21 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
IC ICM C08L063-00  
ICS C08K005-29; C08K003-22; C08K003-36; H01B003-40  
ICA C08L063-02; C08L063-04; C08L063-06; C08L083-06; C08L085-02; C08G018-58;  
C08J003-24; C08K005-13; C08L061-04; C08G059-62; C09K021-00; H01L023-29  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	DE 4223632	A1	19940120	DE 1992-4223632	19920717
	WO 9402528	A1	19940203	WO 1993-DE584	19930702
	W: JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP	650504	A1	19950503	EP 1993-912646	19930702
EP	650504	B1	19971112		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
JP	07509022	T2	19951005	JP 1993-504070	19930702
AT	160154	E	19971115	AT 1993-912646	19930702
ES	2108873	T3	19980101	ES 1993-912646	19930702
JP	3267297	B2	20020318	JP 1994-504070	19930702
US	6225377	B1	20010501	US 1995-367273	19950509
PRAI	DE 1992-4223632	A	19920717		
	WO 1993-DE584	W	19930702		

#### CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
DE 4223632	ICM	C08L063-00			
		ICS	C08K005-29; C08K003-22; C08K003-36; H01B003-40		
		ICA	C08L063-02; C08L063-04; C08L063-06; C08L083-06;		
			C08L085-02; C08G018-58; C08J003-24; C08K005-13;		
			C08L061-04; C08G059-62; C09K021-00; H01L023-29		
	IPCI	C08L0063-00 [ICM,5]; C08K0005-29 [ICS,5]; C08K0003-22			
		[ICS,5]; C08K0003-36 [ICS,5]; C08K0003-00 [ICS,5,C*];			
		H01B0003-40 [ICS,5]; C08L0063-02 [ICA,5]; C08L0063-04			
		[ICA,5]; C08L0063-06 [ICA,5]; C08L0083-06 [ICA,5];			
		C08L0083-00 [ICA,5,C*]; C08L0085-02 [ICA,5];			
WO 9402528	IPCR	C08L0085-00 [ICA,5,C*]; C08G0018-58 [ICA,5];			
		C08G0018-00 [ICA,5,C*]; C08G0018-20 [I,A]; C08G0018-58			
		[I,A]; C08G0059-00 [I,C*]; C08G0059-40 [I,A];			
		C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08L0063-00			
		[I,A]; C08L0063-00 [I,C*]; C08L0083-00 [I,C*];			
	IPCI	C08L0083-08 [I,A]; H01B0003-40 [I,A]; H01B0003-40			
		[I,C*]			
		C08G0059-40 [ICM,5]; C08G0018-00 [ICS,5]; C08G0059-02			
		[ICS,5]; C08L0063-00 [ICS,5]; C08G0059-30 [ICS,5];			
		C08G0059-38 [ICS,5]; C08G0059-00 [ICS,5,C*];			
EP 650504	IPCR	H01L0023-29 [ICS,5]; H01L0023-28 [ICS,5,C*]			
		C08G0018-00 [I,C*]; C08G0018-20 [I,A]; C08G0018-58			
		[I,A]; C08G0059-00 [I,C*]; C08G0059-40 [I,A];			
		C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08L0063-00			
		[I,A]; C08L0063-00 [I,C*]; C08L0083-00 [I,C*];			
	IPCI	C08L0083-08 [I,A]; H01B0003-40 [I,A]; H01B0003-40			
		[I,C*]			
		C08G0059-40 [ICM,6]; C08G0018-00 [ICS,6]; C08G0059-02			
		[ICS,6]; C08L0063-00 [ICS,6]; C08G0059-30 [ICS,6];			
		C08G0059-38 [ICS,6]; C08G0059-00 [ICS,6,C*];			
JP 07509022	IPCI	H01L0023-29 [ICS,6]; H01L0023-28 [ICS,6,C*]			
		C08G0018-00 [I,C*]; C08G0018-20 [I,A]; C08G0018-58			
		[I,A]; C08G0059-00 [I,C*]; C08G0059-40 [I,A];			
		C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08L0063-00			
		[I,A]; C08L0063-00 [I,C*]; C08L0083-00 [I,C*];			
	IPCR	C08L0083-08 [I,A]; H01B0003-40 [I,A]; H01B0003-40			
		[I,C*]			
		C08G0059-18 [ICM,6]; C08G0059-14 [ICS,6]; C08G0059-62			
		[ICS,6]; C08G0059-00 [ICS,6,C*]; C08L0061-06 [ICS,6];			
		C08L0061-00 [ICS,6,C*]; C08L0075-04 [ICS,6];			
		C08L0075-00 [ICS,6,C*]			

AT 160154	IPCI	C08G0059-40 [ICM, 6]; C08G0018-00 [ICS, 6]; C08G0059-02 [ICS, 6]; C08L0063-00 [ICS, 6]; C08G0059-30 [ICS, 6]; C08G0059-38 [ICS, 6]; C08G0059-00 [ICS, 6,C*]; H01L0023-29 [ICS, 6]; H01L0023-28 [ICS, 6,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-20 [I,A]; C08G0018-58 [I,A]; C08G0059-00 [I,C*]; C08G0059-40 [I,A]; C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08L0063-00 [I,A]; C08L0063-00 [I,C*]; C08L0083-00 [I,C*]; C08L0083-00 [I,C*]; C08L0083-08 [I,A]; H01B0003-40 [I,A]; H01B0003-40 [I,C*]
ES 2108873	IPCI	C08G0059-40 [ICM, 6]; C08G0018-00 [ICS, 6]; C08G0059-02 [ICS, 6]; C08L0063-00 [ICS, 6]; C08G0059-30 [ICS, 6]; C08G0059-38 [ICS, 6]; C08G0059-00 [ICS, 6,C*]; H01L0023-29 [ICS, 6]; H01L0023-28 [ICS, 6,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-20 [I,A]; C08G0018-58 [I,A]; C08G0059-00 [I,C*]; C08G0059-40 [I,A]; C08K0003-00 [I,A]; C08K0003-00 [I,C*]; C08L0063-00 [I,A]; C08L0063-00 [I,C*]; C08L0083-00 [I,C*]; C08L0083-00 [I,C*]; C08L0083-08 [I,A]; H01B0003-40 [I,A]; H01B0003-40 [I,C*]
JP 3267297	IPCI	C08L0063-00 [ICM, 7]; C08G0018-58 [ICS, 7]; C08G0018-00 [ICS, 7,C*]; C08G0059-14 [ICS, 7]; C08G0059-62 [ICS, 7]; C08G0059-00 [ICS, 7,C*]; C08K0003-00 [ICS, 7]; H01L0023-29 [ICA, 7]; H01L0023-31 [ICA, 7]; H01L0023-28 [ICA, 7,C*]
US 6225377	IPCI	C08K0003-22 [ICM, 7]; C08K0003-36 [ICS, 7]; C08K0003-00 [ICS, 7,C*]; C08L0063-02 [ICS, 7]; C08L0063-04 [ICS, 7]; C08L0063-00 [ICS, 7,C*]
	NCL	523/427.000; 525/486.000
	ECLA	C08G018/20D4; C08G018/58; C08G059/40B2B; C08K003/00P5+L63/00; C08L063/00+B4B2; C08L083/08+C; H01B003/40

AB Potting compns. are obtained from a powdered epoxy prepolymer and a powdered filled phenolic resin mixture with epoxy-phenolic OH mol ratio 1:(0.1-1.1). The filled epoxy is obtained from an epoxy resin and a polyisocyanate with epoxy-isocyanate mol ratio >1 by heating in the presence of a substituted imidazole catalyst (0.5-2.5%) at <200° until NCO group consumption. Thus, a filled epoxy prepolymer was obtained from tetraglycidylaminodiphenylmethane, bisphenol A epoxy resin, MDI, vitreous silica, carbon black, and 1-cyanoethyl-2-phenylimidazole by heating at 180°. The phenolic resin was based on cresol novolak, carbon black, and vitreous silica. The epoxy powder (100 g) was combined with 282 g phenolic mixture at room temperature to give a storable (in absence of moisture) potting composition A 1:1 epoxy-OH ratio composition provided a product with decomposition temperature 268-374° (355-357° for a com. product).

ST phenolic epoxy potting compn

IT Epoxy resins, uses

Phenolic resins, uses

RL: USES (Uses)

(flame-resistant potting compns. containing)

IT Crosslinking catalysts

(imidazoles, for epoxy resin-based fire-resistant potting compns.)

IT Siloxanes and Silicones, uses

RL: USES (Uses)

(epoxy, flame-resistant potting compns. containing)

IT Potting compositions

(fire-resistant, phenolic-curable epoxy resin-based, preparation of)

IT Fire-resistant materials

(potting compns., phenolic-curable epoxy resin-based, preparation of)

IT Epoxy resins, uses

RL: USES (Uses)

(siloxane-, flame-resistant potting compns. containing)

IT 670-96-2, 2-Phenylimidazole 931-36-2, 2-Ethyl-4-methylimidazole

23996-12-5, 1-(Cyanoethyl)-2-phenylimidazole

RL: CAT (Catalyst use); USES (Uses)

(catalysts, for crosslinking of epoxy resin-based fire-resistant  
potting compns.)

IT 101-68-8, Diphenylmethane diisocyanate 1344-28-1, Aluminum oxide, uses  
2451-62-9, Triglycidyl isocyanurate 18795-26-1, Diglycidyl  
phenyl phosphonate 26471-62-5, TDI 28768-32-3,  
Tetraglycidylaminodiphenylmethane 60676-86-0, Vitreous silica  
RL: USES (Uses)

(fire-resistant potting compns. containing)

IT 9003-35-4, Formaldehyde-phenol copolymer 9016-83-5,  
Cresol-formaldehyde copolymer  
RL: USES (Uses)

(novolak, epoxy resin-based fire-resistant potting compns. containing)

L11 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:659565 CAPLUS

DN 119:259565

ED Entered STN: 11 Dec 1993

TI Photopolymerizable composition containing interlinked allylic and epoxy  
polymer network

IN Breeveld, Ricardo Henry; Schutyser, Jan Andre Jozef

PA AKZO N. V., Neth.

SO PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G03F007-027

ICS H05K003-18; H05K003-46; C23C018-18

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reproductive Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9311465	A1	19930610	WO 1992-EP2332	19921009
	W: CA, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
PRAI	EP 1991-203191	A	19911206		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO	9311465	ICM	G03F007-027
		ICS	H05K003-18; H05K003-46; C23C018-18
		IPCI	G03F0007-027 [ICM,5]; H05K0003-18 [ICS,5]; H05K0003-46 [ICS,5]; C23C0018-18 [ICS,5]
		IPCR	C08F0283-00 [I,C*]; C08F0283-10 [I,A]; C23C0018-20 [I,A]; C23C0018-20 [I,C*]; G03F0007-027 [I,A]; G03F0007-027 [I,C*]; H05K0003-00 [N,A]; H05K0003-00 [N,C*]; H05K0003-18 [N,A]; H05K0003-18 [N,C*]; H05K0003-28 [I,A]; H05K0003-28 [I,C*]

AB A photopolymerizable composition is described comprising a mixture of  
interpenetrating network-forming monomers and a photoinitiator, the  
interpenetrating network-forming monomers comprising ethylenically unsatd.  
compds. capable of forming a polymer network, and a mixture capable of  
forming an epoxy resin network. The polymer network is formed, at least  
partially, from allylic compds. Essentially the polymer network and the  
epoxy resin network are interlinked by means of a compound having both an  
ethylenically unsatd. functional group and a functional group reactive  
towards at least one of the ingredients in the epoxy resin network.  
Preferably, the compound is an ethylenically unsatd. epoxy crosslinker, such  
as maleic anhydride. The photopolymerizable composition, which optionally  
further comprises photopolymerizable vinylic monomers, a film-forming  
binder, solvents, pigments, and other additives, proves particularly  
useful as an additive plating resist or, if additive catalysts are added,  
as an electroless platable resist.

ST plating photoresist photopolymerizable compn; allyl epoxy crosslinking  
 compn  
 IT Resists  
     (photo-, plating, crosslinkable photopolymerizable compns. for)  
 IT 101-37-1 108-31-6, 2,5-Furandione, uses 925-21-3 1025-15-6  
 2451-62-9 3990-03-2 9003-35-4D, glycidyl ethers  
 15625-89-5 24448-20-2 25068-38-6 25550-51-0 42610-22-0  
 52918-26-0 146692-58-2  
 RL: USES (Uses)  
     (photocrosslinkable composition containing)

L11 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1987:517119 CAPLUS  
 DN 107:117119  
 ED Entered STN: 05 Oct 1987  
 TI Printing pastes  
 IN Kasper, Eberhard; Schmidt, Christoph; Daehre, Karl Heinz; Jentzsch, Renate  
 PA VEB Elektronische Bauelemente, Teltow, Ger. Dem. Rep.  
 SO Ger. (East), 6 pp.  
 CODEN: GEXXA8  
 DT Patent  
 LA German  
 IC ICM C09D011-10  
 CC 42-12 (Coatings, Inks, and Related Products)  
     Section cross-reference(s): 76

FAN.CNT	1	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 240556	A1	19861105	DD 1985-280001		19850827
PRAI	DD 1985-280001			19850827		

CLASS  
 PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

DD 240556	ICM	C09D011-10
	IPCI	C09D0011-10 [ICM, 4]
	IPCR	C09D0011-10 [I,C*]; C09D0011-10 [I,A]

AB Aminoplast-epoxy resin pastes, optionally containing phenolic resins, forming highly defined, solvent-resistant prints, especially on electronic apparatus, contain N-alkyllactams as reactive diluents and solvents, and optionally maleamic acid derivs. as crosslinkers. Heating 1 kg 60% BuOH solution of butylated melamine resin (mol. weight 600) was with 120 g polyether-polyester containing 8.31% OH in 80 g N-methylcaprolactam with removal of BuOH gave an aminoplast. A paste containing this aminoplast 600, epoxy resin 375, and TiO<sub>2</sub> 450 g was baked 20 s at 220° and 1 s at 300° in the presence of 1% p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H morpholide on an epoxy resin.

ST methylcaprolactam printing paste; lactam alkyl printing paste; aminoplast printing paste; electronic app printing paste; melamine resin printing paste; printing paste reactive diluent

IT Crosslinking agents  
     (maleamic acid bis derivs., for aminoplast-epoxy resin printing pastes)

IT Epoxy resins, uses and miscellaneous  
 RL: USES (Uses)  
     (printing pastes containing, alkyllactam reactive diluents for)

IT Phenolic resins, uses and miscellaneous  
 RL: USES (Uses)  
     (epoxy, printing pastes containing, alkyllactam reactive diluents for)

IT Epoxy resins, uses and miscellaneous  
 RL: USES (Uses)  
     (phenolic, printing pastes containing, alkyllactam reactive diluents for)

IT Inks  
     (printing, for electronic apparatus, alkyllactam reactive diluents for)

IT 557-24-4D, bis derivs.  
 RL: MOA (Modifier or additive use); USES (Uses)  
     (crosslinking agents, for aminoplast-epoxy resin printing pastes)

IT 2451-62-9, Triglycidyl isocyanurate 9003-35-4,  
Formaldehyde-phenol copolymer  
RL: USES (Uses)  
(printing pastes containing, alkyl lactam reactive diluents for)  
IT 25068-38-6  
RL: USES (Uses)  
(printing pastes, alkyl lactams as reactive diluents for)  
IT 9003-08-1D, Formaldehyde-melamine copolymer, reaction products with  
polymeric polyols  
RL: USES (Uses)  
(printing pastes, reactive diluents for)  
IT 2556-73-2, N-Methylcaprolactam  
RL: USES (Uses)  
(reactive diluents, for aminoplast-epoxy resin printing pastes)

L11 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1983:475342 CAPLUS

DN 99:75342

ED Entered STN: 12 May 1984

TI Resin-coated sand

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC B22C001-02; B22C001-22

CC 56-2 (Nonferrous Metals and Alloys)

Section cross-reference(s): 55

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58058954	A2	19830407	JP 1981-156154	19811002
	JP 61019329	B4	19860516		
PRAI	JP 1981-156154		19811002		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	JP 58058954	IC	B22C001-02; B22C001-22
		IPCI	B22C0001-02; B22C0001-00 [C*]; B22C0001-22; B22C0001-16 [C*]
		IPCR	B22C0001-16 [I,C*]; B22C0001-22 [I,A]

AB Binders containing polyglycidyl compds. with isocyanurate ring, inactive hardening agents, and phenol-formaldehyde resins are coated on sand for molding. The resin-coated sand is particularly useful for making cores. Thus, SiO<sub>2</sub> sand 1 kg was mixed with novolak-type phenol-formaldehyde resin [9003-35-4] 13 g at 180°, then with triglycidyl isocyanurate [2451-62-9] 8 g at 140°, with dicyandiamide [504-66-5] 2 g, and hexamethylenetetramine [100-97-0] 2 g in 10 g H<sub>2</sub>O at 100°, cooled, and dried to obtain resin-coated sand, which was shaped at 230° to make a test-piece with tensile strength 17 kg/cm<sup>2</sup>.

ST molding sand resin coated; binder sand molding core; isocyanurate binder mold sand; triglycidyl isocyanurate binder core; phenol formaldehyde resin binder core

IT Molds (forms)

(binders for cores and, containing triglycidyl isocyanurate and phenol-formaldehyde resin)

IT 100-97-0, uses and miscellaneous 504-66-5 2451-62-9  
9003-35-4

RL: USES (Uses)

(binder, for molds and cores)

L11 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1973:44465 CAPLUS

DN 78:44465

ED Entered STN: 12 May 1984  
 TI Hardenable triglycidyl isocyanurate-novolak adduct  
 IN Kassner, Karl Heinz  
 PA Henkel und Cie. G.m.b.H.  
 SO Ger. Offen., 9 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC C08G  
 CC 36-3 (Plastics Manufacture and Processing)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2115854	A	19721012	DE 1971-2115854	19710401
	DE 2115854	C3	19781005		
	US 3766296	A	19731016	US 1972-236339	19720320
	ES 401301	A1	19750216	ES 1972-401301	19720329
	FR 2132259	A5	19721117	FR 1972-11290	19720330
	FR 2132259	B1	19800404		
	GB 1383847	A	19750212	GB 1972-14952	19720330
	AT 320814	B	19750225	AT 1972-2783	19720330
	AT 322217	B	19750512	AT 1974-1328	19720330
	AT 7401327	A	19750615	AT 1972-132774	19720330
	CH 571545	A	19760115	CH 1972-4844	19720330
PRAI DE 1971-2115854	A	19710401			

#### CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE	2115854	IC	C08G
		IPCI	C08G0030-10
		IPCR	C08L0063-00 [I,C*]; C08L0063-06 [I,A]
	US 3766296	IPCI	C08G0045-08
		NCL	156/330.000; 427/386.000; 525/481.000; 525/489.000; 525/523.000; 528/096.000; 528/107.000
	ES 401301	IPCI	C08G
	FR 2132259	IPCI	C08G0030-00; C08G0045-00; C09D0003-00; C09J0003-00
		IPCR	C08L0063-00 [I,C*]; C08L0063-06 [I,A]
	GB 1383847	IPCI	C08G0059-02; C08G0059-00 [C*]; C08K0005-02; C08K0005-04; C08K0005-00. [C*]; C08L0063-04;
			C08L0063-06; C08L0063-00 [C*]
	AT 320814	IPCI	C09D0003-58
	IPCR	C08L0063-00 [I,C*]; C08L0063-06 [I,A]	
AT 322217	IPCI	C08G0059-18; C08G0059-00 [C*]	
AT 7401327	IPCI	C09J0003-16; C08L0063-06; C08L0063-00 [C*]; C08L0061-10; C08L0061-00 [C*]	
CH 571545	IPCI	C08G0059-00; C09D0003-58; C09J0003-16	
	IPCR	C08L0063-00 [I,C*]; C08L0063-06 [I,A]	

AB The storage-stable, crosslinkable adduct of crystallized triglycidyl isocyanurate (I) [2451-62-9] and a formaldehyde-phenol novolak (II) [9003-35-4], of epoxy O content 4.8% and soluble in organic solvents, was prepared and used as an adhesive or coating. Thus, 100 g II (1.5:2 moles HCHO-PhOH, epoxy O content 14.5%) and 100 g I were melt-mixed, heated 40 min at 140.deg., and powdered. Coatings from 30% butanone solution of this powder on metal sheets were heated 2 hr at 120.deg.. Their good surface qualities were not altered by heating 20 hr at 250.deg..

ST glycidyl isocyanurate novolak adduct; coating glycidyl isocyanurate adduct; adhesive glycidyl isocyanurate adduct

IT Adhesives

Coating materials

(novolak-triglycidyl isocyanurate adducts)

IT Phenol, polymer with formaldehyde, novolak, reaction products with triglycidyl isocyanurate

RL: USES (Uses)

(adhesives and coatings)

IT 2451-62-9D, 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione,  
1,3,5-tris(oxiranylmethyl)-, reaction products with phenolic novolak resin  
RL: USES (Uses)  
(adhesives and coatings)

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(FILE 'HOME' ENTERED AT 15:30:35 ON 21 SEP 2006)

FILE 'CAPLUS' ENTERED AT 15:30:50 ON 21 SEP 2006  
E JP58107312/PN

L1 1 S E3  
L2 0 S TRIGLYCIDYLISOCYANURATE AND NOVOLAC  
L3 1 S TRIGLYCIDYL ISOCYANURATE AND NOVOLAC

FILE 'REGISTRY' ENTERED AT 15:32:53 ON 21 SEP 2006  
L4 1 S 2451-62-9  
L5 32 S NOVOLAK  
L6 1 S 9003-35-4

FILE 'CAPLUS' ENTERED AT 15:33:48 ON 21 SEP 2006  
L7 0 S L6 AND L3  
L8 4443 S L6 AND POLYMER  
L9 1235 S L8 AND ACID  
L10 0 S L3 AND PHOTO?  
L11 12 S L4 AND L6

=> log y

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STN INTERNATIONAL LOGOFF AT 15:35:25 ON 21 SEP 2006